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Pages 9-16

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Cotton Acreage in Soil Bank Below USDA Estimates

Rain in Southwest Trims Placements In Acreage Reserve

WASHINGTON—U.S. Department of Agriculture officials believe that the sign-up to put cotton land into the acreage reserve program of the soil bank may exceed 3.5 million acres, but is unlikely to reach previous estimates of 4 million acres.

These officials think that corn sign-ups in the commercial corn belt will materially exceed 3.5 million acres, even under the tight acreage allotment of 37 million acres.

USDA officials explain the unexpected fall off in the cotton soil bank contribution to the renewal of rains in Texas and other parts of the Southwest, where improved moisture appears to have persuaded farmers to tear up previously made soil bank contracts and gamble on the weather.

Here is a state by state breakdown of soil bank participation for the three major crops of cotton, corn and wheat.

Of the cotton acreage sign-up for the soil bank for the 1957 crop as of March 1, USDA officials report the following state distribution of that acreage (all states with relatively small acreage have been excluded in this tabulation):

Alabama 244,000, Arizona 32,000, Arkansas 152 000, California 54,000, Florida 15,000, Georgia 246,000, Louisiana 97,000, Mississippi 220,000, Missouri 14,000, New Mexico 9,000, North Carolina 116,000, Oklahoma 139,000, South Carolina 171,000, Tennessee

(Continued on page 17)

Measure Introduced to Apply Exemption From ICC to Truck Fertilizer Shipments

By JOHN CIPPERLY
Croplife Washington Correspondent

— See Comment on Page 4 —

WASHINGTON—Rep. E. C. Gathings (D., Ark.) has introduced a bill in the House that would make applicable to truck fertilizer shipments exemption from Interstate Commerce Commission regulations as to rates, and return haul licensing of motor vehicles by farmers, private carriers and independent truck operators.

The measure is numbered H.R. 5765. It has been referred to the House Committee on Interstate and Foreign Commerce, but thus far no hearings have been scheduled.

The exemption which the bill would apply to truck movement of fertilizer materials is generally known as an exemption of agricultural haulers from ICC rate control.

Rep. Gathings has sensed a wide gap in the present agricultural exemption as far as fertilizer materials are concerned. He proposes in his bill to make these materials available for exemption from ICC rate control on interstate commerce shipments by motor vehicle.

The heart of the Gathings Bill is that it proposes to give to the farmers an opportunity to offset higher rail freight rates which are in effect and steadily rising on purchases of plant foods. If the Gathings Bill is enacted it might mean to all farmers and plant food distributors an opportunity to hold down the cost of plant foods at a time when costs are squeezing the farmers.

Paul T. Truitt, executive vice president of the National Plant Food Institute, told Croplife that as he saw it the passage of the Gathings Bill would "be helpful to farmers. If approved, the delivery of fertilizers would be facilitated during the spring when demand is at a peak."

Worst Hopper Year Since 30's Seen in North Dakota; Wyoming Maps Program

BISMARCK, N.D.—A grasshopper plague that could be the worst since the 1930's is shaping up in North Dakota. Vance Goodfellow, assistant state entomologist, said that egg and adult grasshopper counts indicate that 60% of the state may be infested during the 1957 growing season.

State surveys show that fields in all but two of the 14 counties west of the Missouri River will have an average of seven to 28 hoppers per square yard. North Central and Southeast North Dakota are other potential trouble spots.

Close to eight million acres of cropland and 200,000 acres of rangeland in the state may have to be sprayed this year. The state legislature has appropriated $200,000 for spraying.

750,000-Acre Program Planned in Wyoming

CHEYENNE, WYO.—State and federal officials met recently in Cheyenne in the office of William L. Chapman, agricultural commissioner, to map plans for a 750,000-acre grasshopper control program in Wyoming this summer.

Following the meeting, Mr. Chapman expressed the hope that the big control program can be carried out, despite the fact that the legislature cut the department's requested appropriation for grasshopper and cricket control from $187,932 to $145,000.

Mr. Chapman said the per acre cost of the proposed program is estimated at 60¢—if the prices of materials and cost of application do not exceed those of past seasons. In that case, he said, "We should be able to cope, substantially, with the estimated acreage that will require attention."

Mr. Chapman said the only things that might curtail the expected infestations this summer would be the weather, hopper parasites or hopper predators.

Texas City Firm Reorganized Under Coronet Operation

NORFOLK, VA.—Approval of the reorganization of Texas City Chemicals, Inc., manufacturer of dicalcium phosphate and sulphuric and phosphoric acid, under the management of the Coronet Phosphate Co., division of Smith-Douglass Co., has been announced. Confirmation of the plan of reorganization was entered in the U.S. District Court for the southern district of Texas.

As reorganized, the parent Smith-Douglass Co. becomes the sole stockholder of Texas City Chemicals, Inc., which will be operated as a separate corporation, under the management of Coronet Phosphate division.

Texas City Chemicals completed a large dicalcium phosphate plant in 1953. The plant ceased operation in January, 1956.

Smith-Douglass said that it is anticipated that fertilizers and diversified chemicals will be produced at the Texas City plant.

Congress Rejects All Proposals for Soil Bank Changes

WASHINGTON — The badly split farm bloc in Congress last week defeated all proposals on the House floor to open up the soil bank and the corn acreage allotment program for this crop year. (See related story, page 3, this issue.)

The House in an unusual vote rejected the liberalized Democratic plan for corn allotments and soil bank participation and, at the next vote, beat down the Republican alternative and also the proposal sent forth to Congress from the Farm Bureau Federation.

As has been predicted before in Croplife, there will be no major farm legislation this year.

At last week end, the corn acreage allotment decision of the farmers in the Dec. 11 referendum means that for the commercial corn belt a total allotment of 37 million acres will be the total. To obtain soil bank payments and price support for that proportionate acreage for each farm, it will be necessary for farmers in the commercial corn belt to cooperate. Farm legislation for this year is dead on the basis of the vote in the House last week. Nobody wants anyone's bills, it seems.

NAC Receives Formula For Adequate Return on Investment and Sales

By LAWRENCE A. LONG
Editor of Croplife

SAN FRANCISCO — A review of the pesticide industry from the standpoint of money invested and the return to be expected, was one of the highlights of the final day of the National Agricultural Chemicals Assn. meeting at the Fairmont Hotel here, as the convention came to a close on March 8.

Other speakers on the final day's program covered developments in the setting of residue tolerances, forest pest control, and a report by members of the NAC staff on its activities. Appearing on the previous program of March 6 were F. W. Hatch, Shell Chemical Corp., New York, NAC president; Dr. S. B. Freeborn, provost, University of California, Davis; Earl Coke, vice president, Bank of America, San Francisco; J. A. Walker, Standard Oil Co., San Francisco; and C. O. Barnard, executive secretary of the Western Agricultural Chemicals Assn., San Jose, Cal. (Croplife March 11, page 1.)

J. V. Vernon, president of Niagara Chemical Div., Food Machinery and Chemical Corp., Middleport,

(Continued on page 20)

Inside You'll Find

Insect and Plant Disease Notes.. 4
World Report 8
Over the Counter 9
What's New 10
Field Notes 16
Editorials 22
Meeting Memos 23
Index of Advertisers 23

Farm Demonstration Project in Oregon Starts Second Year

PORTLAND, ORE. — The second year of the Oregon Farm Demonstration Project, sponsored by the Pacific Northwest Plant Food Assn., is getting under way in the Hillsboro, Washington County area. (See page 9, Dec. 17 issue of Croplife.)

The project, one of three sponsored by the association in the Pacific Northwest, is located on the Lennox Blatchford farm near Hillsboro, and is under supervision of Palmer Torvend, Washington County extension agent, Thomas Jackson, soils department, Oregon State College, and Grant Braun, American Potash Institute, representing the association.

The local sponsorship committee is headed by Ed Day, agricultural agent of the First National Bank at Hillsboro, and he has appointed numerous committees to function during the second year. Joe Floren, of Hillsboro, heads the publicity committee, Earl Prickett, local information, and Don Campbell, chairman of field days.

There will be a field day the first week in May to which all farmers in the surrounding area have been invited to attend. Field Days will show actual results of the application of fertilizer to the crops on the Lennox Blatchford farm.

The results of the first year's tests were given at a recent meeting of the over-all committee. Silage produced in 1956 was 150 tons, hay 50 tons and wheat over 6 tons. During 1955 Mr. Blatchford was short of feed. In 1956 he had ample pasture. Additionally, he carried fifty cows on 17 acres of pasture from April 15 to Sept. 1.

One of the interesting figures is that in 1955, his dairy herd produced in 1,107 average cow days per month an average of 649 pounds of milk per cow; while in 1956 in 981 days, 636 pounds of milk per cow per month were produced. This means that in 126 less cow days per month, the cow average production was only 13 pounds of milk per month less.

This is partly the result of the good feeding program and partly because of the better herd management, according to Mr. Torvend. In addition, on this farm last year were 15 pigs with a profit above cash feed costs of $250. The remainder of the feed was made up of pasture and also produced 19 head of sheep.

The Oregon project is set up on an individual farm basis, under actual farm practices, under the direction of technical and scientific committees.

Two previous farm demonstration projects—one at Lynden, Wash. and the other at Sandpoint, Idaho—have been completed by the association.

MITE STUDY

LEXINGTON, KY.—The National Science Foundation and the Rockefeller Foundation have awarded two grants totaling $15,250 to a University of Kentucky entomologist for a study of plant-feeding mites. The money will go to expand research by Dr. J. G. Rodriguez on effects of insecticides and fertilizers on certain mites, sometimes known as red spiders.

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Gypsy Moth Scouts Find Only Two Egg Masses in New Jersey

TRENTON, N.J.—Intensive sco ing operations in northern New J sey to uncover evidence of gyp moth infestation have revealed o two locations in which egg masses the insect were found, according Frank A. Soraci, director of the Di sion of Plant Industry, New Jers Department of Agriculture. Both the woodland sites where eggs w discovered are in Sussex County.

The scouting program, begun December, will continue for abo six more weeks, up to the time of e hatching. During this period, cre of trained men explore forested are where gypsy moths were found l summer to determine locations whe egg masses might have been depos ed. During the summer of 1956, 2,0 gypsy moth traps were set out in t northern counties of the State. Mot were picked up in only 27 of the locations. In only one spot in Suss County was more than one mo captured in a single trap.

The smallness of the adult "catc indicated that the 1957 infestati would be light and scattered. Ho ever, scientists do not consider th capture of adult moths as conclusi evidence that an infestation exist because moths can be carried in b wind from other areas. The presen of egg masses, permanently attache to trees, stones or other forest o jects, is surer proof.

The gypsy moth appeared in Ne Jersey in 1954, after an absence more than 20 years. Because th pest is the most destructive to hard wood forests in the East, extensiv control measures have been used t eradicate it from the state. On four moths were captured and no eg masses found in areas treated wit insecticide in 1956, indicating th success of the control operation. Th eradication campaign will continu this year, with a larger area slate to receive insecticide applications.

North Central ESA To Meet in Des Moines

AMES, IOWA—More than 400 i sect specialists are expected to a tend the North Central Branch mee ing of the Entomological Society America in Des Moines March 27-2

T. A. Brindley, Iowa State Co lege entomologist, chairman of th local arrangements committee, a nounced that research involving vi tually every insect of economic im portance in the Corn Belt regio will be reviewed during the co ference.

One of the featured addresses the conference will be delivered Justus Ward, who is with the i secticide labeling section of the U Department of Agriculture.

Others appearing on the progra include H. M. Armitage, presider of the Entomological Society America, and E. F. Knipling, chi of the entomology research divisio of the USDA.

Harold Gunderson of the Iow State College entomology depar ment has been selected chairman a group that will present a discu sion report on stored product i sects. Other sessions during the co ference will deal with specializ research on forest and fruit insect and those common to cereal, fora and truck crops.

TVA to Auction Plant Site in Mobile, Ala.

KNOXVILLE — Tennessee Vall Authority will auction on March a 148-acre industrial site at 23 Grant St., Mobile, Ala., which purchased during World War II f constructing a dual-purpose mun tions-fertilizer plant. Plans for buil ing the plant were abandoned so years ago.

John L. Tullis

x New Members amed to Newly ormed Beaird Board

SHREVEPORT, LA.—John L. Tul- vice president in charge of sales, d five officials of American Ma- ne & Foundry Co., have been add- as members of a newly formed ard of directors of the J. B. Beaird , Inc., Shreveport, La. manufac- er of heavy steel products, J. Pat aird, president, has announced.

Election of the new directors at a rd meeting in New York City fol- s the recent merger of Beaird and MF.

Mr. Tullis, the new Beaird member the board, has been associated with aird 10 years and was named vice sident in charge of sales in April, 54. A graduate engineer, he was rmerly with Lone Star Steel Co. at ingerfield, Texas and director of industrial development depart- nt of the Shreveport Chamber of mmerce prior to joining Beaird.

Rounding out the nine member ard are J. Pat Beaird, president d general manager of Beaird; J. G. Brien, vice president and treasurer, aird; Charles T. Beaird; Morehead tterson, chairman of the board and sident of AMF; Rodney C. Gott, MF executive vice president; Robert Kerr, AMF vice president; Dave Meiklejohn, AMF treasurer; and G. McCool, president of Ameri- n Iron and Machine Works, Okla- ma City, Oklahoma, an AMF affili- . J. Pat Beaird was also named a rector of American Iron and Ma- ine Works at the same meeting.

ugene F. Connally amed Assistant to alspray District Head

MARYLAND HEIGHTS, MO.— ppointment of Eugene F. Connally assistant to R. C. Yapp, district anager for California Spray-Chem- l Corp. here, was announced re- ntly by Mr. Yapp.

Mr. Connally graduated cum laude m Williams College, Williamstown, ass. in 1947 and received his mast- degree at Stanford University in 56. Previous to his employment at alspray, he was an organization and ethods analyst at the Naval Supply nter in Oakland, Cal.

In his new position, Mr. Connally ll assist Mr. Yapp of the Midwest rketing office of Calspray, manu- cturer of the Ortho line of agri- tural chemicals—insecticides, pes- ides, fungicides, fertilizers and ed killers.

Originally from Troy, N.Y., Mr. nnally has made his home in Orin- Cal. with his wife, Patricia, and ir four-year-old son Christopher. ring World War II, Mr. Connally rved as a first lieutenant in the my Air Force and was a captain in Air Force in Korea.

The Week in WASHINGTON

By JOHN CIPPERLY
Croplife Washington Correspondent

WASHINGTON — The bi-partisan farm bloc in Congress appears to be dissolving. The bloc split in considering a new corn acreage soil bank bill in the House. Economic interests of the commercial corn belt and hog farmers are lined up on one side and cotton interests on the other.

This split, as interpreted by observers in the Senate, means that there will be no major farm legislation this year. The division in the House is along party lines. It is the cotton bloc now against the corn-hog farmers.

The Democrats want to gain advantage by making the corn acreage allotment base available for soil bank payments on all feed grains. U.S. Department of Agriculture analysts say this bill would undoubtedly increase feed grain production. They say it would give the cotton and wheat farmer the opportunity to apply for Soil Bank payments on the basis of corn acreage allotment yields.

The Democratic view is that the feed grain problem is not exclusively that of corn but of all feed grains, including the growing importance of grain sorghums.

There is a group in USDA which prefers to see the Soil Bank used as an incentive to develop new crops on land which in effect is now being rented from farmers for use in the Soil Bank. This group feels that now is the time to require farmers entering the Soil Bank also to attempt production of such new crops as castor beans, sunflower and sesame seeds in areas where those crops might be successful.

This opinion comes from the Agricultural Research Service of USDA in response to queries from an advisory committee which has been promoting new industrial uses of commodities such as corn for alcohol production as an additive to gasoline. ARS officials say they can find little long range merit in corn for alcohol for motor fuel dilution.

NEW DIAMOND FACILITY

CLEVELAND—Diamond Alkali Co., Cleveland, has announced plans for constructing a new plant to produce 50-million pounds of vinyl chloride monomer annually. In making the announcement, A. L. Gelsinger, vice president and general manager of the plastics division, said that the new facility will be located at Diamond's Deer Park Plant at Houston, Texas.

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NEW ENGLAND NEWS NOTES

Changing Farm Scene Highlighted as Massachusetts Farmers Start New Season

By GUY LIVINGSTON
Croplife Special Writer

BOSTON—Massachusetts farmers, hurt but undaunted by the hurricanes of 1954, the floods of 1955, and the late spring frosts and summer drouth of 1956, are beginning the perennial task of preparing the land for the coming growing season as new methods of agriculture make their appearance here.

New modern mechanical equipment has become one of the key factors in successful farming in Massachusetts now with tractors, haul harrows, plows and other equipment enabling farmers to operate efficiently.

Massachusetts is essentially an industrial state with more than 80% of the agricultural products used by consumers imported from other parts of the country. Local farms support only 20% of the state's needs, yet in 1955 these farms had a gross income of $171,449,000, according to the U.S. Department of Agriculture.

Massachusetts truck garden crops accounted for $12,570,000 of the total with the state leading the rest of New England in the value of its truck crops. It was also first among the six states with a fruit crop valued at $11,729,000.

Leading truck crops are sweet corn, tomatoes, squash, carrots, strawberries and lettuce. "Native sweet corn always brought high prices," Louis A. Webster, director of the division of markets of the State Department of Agriculture, reported, "but in recent years this has changed. New corn can be found on the market the year around and when the native crop reaches the stands in late July consumers are not as eager for it.

"Tomatoes are another commodity which come into the Boston market from the South and West," Mr. Webster said. "Until recently our farm operators felt that packaging was not needed for native tomatoes. This has changed. The consumer today demands that the product look attractive, no matter how good it tastes. Now our Massachusetts tomatoes are packaged when they reach the market in April, May and June. You can always tell the native tomatoes. They still have the stems attached."

Urban growth has cut into farming in Massachusetts. A recent survey disclosed that farms with an annual net value of less than $2,500 are being eliminated. Those with a value of from $2,500 to $25,000 are increasing. The successful Massachusetts farms are largely in the latter category. Operators of these farms have the capital to invest in machinery and have over the years developed efficient methods of planting and harvesting while concentrating on intensive crops, which bring the highest market value. This intensive crop management and the proximity of farms to the local market is reflected in cash receipts per acre received by Bay State farmers.

The Federal Reserve Bank of Boston in an analysis of cash receipts disclosed that Massachusetts farmers in 1955 average $131.56 per acre from marketing. This compared with a New England average of $67.61—and the South Dakota average of $11.13 per acre.

The Federal Reserve pointed out, however, that the proximity to urban markets has a number of disadvantages. Farmers in these areas have high land values, high taxes and competitive factory wage rates to contend with. "Nevertheless," the report says, "farms with a scale of operations large enough to permit a reasonable degree of mechanization, the advantages of a location close to markets far outweigh the disadvantages and account for the stability which characterizes much of New England's agriculture."

But, for those who remain in agriculture is the eternal problem of New England weather. In the past three years, Massachusetts farmers have been beset by every variety of difficulty ranging from hurricanes to tornadoes and floods.

In 1954 hurricanes raised havoc with crops during August. In 1955, heavy floods swept through the Connecticut Valley and Massachusetts areas causing millions of dollars of damage. A hurricane in the Worcester County region in 1954 caused grim havoc.

Last year the spring was wet and damp and planting was late. Then during the last week in May, a killing frost swept over the state and 3,000,000 tomato plants were lost along with a variety of sprouting crops. As farmers struggled to replace the frost bitten plants, a drouth set in and for more than six weeks not an appreciable drop of rain fell.

This year, more than 250,000 tomato plants are already underway in greenhouses and farm group leaders tend to be optimistic and look for a good season. The Massachusetts tobacco farmers faced one of the gravest crises in their history last year, but with the introduction here of "homogenized tobacco leaf," the tobacco farmers look forward with new hope.

Sixty percent of the nation's supply of cranberries are grown in Massachusetts and they are the one agricultural product which is exported to any great extent. But even here competition from Wisconsin is causing some concern.

OFFICE REDECORATED

BAKER, ORE.—Redecoration of the Staab Feed & Chemical office here was completed recently. A recent fire caused the move. Along with the decoration, the firm is enlarging its service to the area on spraying and chemical applications and will continue with lines of salts, feeds and other farm services, according to C. H. Staab, manager.

Du Pont Reports Near Record Sales, Earnings in 1956

WILMINGTON — Sales, earnings and dividends of the Du Pont Co. in 1956 were the second highest in the company's history, exceeded only by the record highs established in 1955, Crawford H. Greenewalt, president, disclosed in his annual report to the more than 168,000 stockholders.

Sales were $1,888 million, or 1% lower than in 1955, while physical volume of sales was about 3% higher. For the fourth quarter of 1956, sales were at an all-time high of $495 million.

Reduction of selling prices of some products and increased costs resulted in a lower profit margin. Net earnings from operations decreased 13% from 1955 due to higher operating expenses and lower dollar sales, while average operating investment was 7% greater than in 1955.

As a result, net earnings from operations as a percentage of operating investment declined from 13.8% in 1955 to 11.3%. Earnings for 1956, as previously announced, were $8.20 per share of common stock, including $2.55 from General Motors dividends, as compared with $9.26 in 1955, including $2.75 from General Motors.

Average gross operating investment was $2,252 million for 1956, an increase of $140 million. Operating investment per employee was $25,200, an increase of $1,000 during the year. The company spent $157 million during the year to improve and expand existing plants and laboratories and to build new ones, compared with $119 million spent in 1955. Four new plants began operation during the last quarter of the year, providing additional manufacturing capacity for neoprene synthetic rubber, sulfuric acid, finishes and "Freon" refrigerants.

South Carolina Sales

CLEMSON, S.C.—February fertilizer sales in South Carolina totaled 120,593 tons, compared with 123,996 tons in February, 1956, according to the State Department of Fertilizer Inspection and Analysis. Sales for the first eight months (July-February) of the 1956-57 fiscal year totaled 282,808, a decrease of 1% from 285,572 tons in a corresponding period in 1955-56.

Panogen Acquires Larvacide Stock; Firms to Join

NEW YORK—A joint announcement by Petrus Hellman, president of Panogen, Inc., and Conrad C. Johnson, president of Larvacide Products, Inc., reveals that the two companies are joining forces as a result of the Panogen group acquiring the stock of Larvacide Products, Inc.

Larvacide Products will continue to operate as a separate company under management of Mr. Johnson. Richard P. Porter remains with Larvacide as vice president in charge of sales.

Larvacide, Inc., will make its headquarters at Ringwood, Ill., instead of 117 Liberty St., New York, where it has been for many years. Notice of the change is being mailed to friends and customers of the company.

In the joint announcement Mr. Hellman stated that the manpower and resources added through the merger will provide improved service to the trade throughout the country.

Panogen, Inc., manufactures and sells seed treating chemicals such as "Panogen," "Panoram" and "Drinox," as well as seed treating equipment and "Pano-drench," a soil treatment for the greenhouse and nursery trade. Charles M. Hutchinson, whose election as Panogen vice president was recently announced, continues as sales manager for Panogen, Inc.

Larvacide Products, Inc., distributes soil and industrial fumigants such as "Larvacide," "Aerosol Larvacide," "Pestmaster Methyl Bromide," "Mildex," "Plantex," soil covers and similar items.

Nitrogen Division Fire Causes Loss at Ohio Plant

SOUTH POINT, OHIO—A fire of undetermined origin ruined 45,000 tons of 12-12-12 fertilizer in a bulk storage warehouse of the Nitrogen Division of Allied Chemical & Dye Corp. March 8 and 9. The assistance of fire departments from Ironton, Ohio, Ashland, Kentucky, and Huntington, W. Va. was required to subdue the stubborn fire.

The fertilizer was stored in a concrete building and the fire was of a "self-feeding" nature since combustion produced more oxygen which, in turn, fed the fire. First reports spread the rumor that the fire was producing chlorine gas and there was some talk of evacuating people in the path of the wind-borne gases. Chemists were sent by the company to collect samples of the fumes and smoke and it was found that while the gas was mildly irritating to the nose and throat, there was no danger to public health.

The production plant was not affected by the fire and there were no injuries. The bagging department equipment sustained some damage.

An allied spokesman said that the 45,000 tons of 12-12-12 is a total loss and will not be salvaged. The damage to the plant was limited to the packing department, and because the firm did not have any place to put the plant production, the plant had to be shut down. It was being put back into production March 14 with production being put in a prefab storage building. With portable bagging equipment, the firm was "back in business at South Point." Orders will be filled from South Point and from stocks at other locations, the spokesman said.

DOW APPOINTMENT

MIDLAND, MICH. — Dr. D. E. Pletcher has been advanced to the newly created position of staff manager of fine chemicals for the Dow Chemical Co. He has been director of aromatic research since 1951.

Congress Needs to Hear From Industry On Agricultural Transportation Bill

With a bill introduced into Congress by E. C. Gathings (D., Ark.) to give the agricultural chemical industry a favorable break on transportation of fertilizer materials, people in the trade have an opportunity to write their congressmen and demand a hearing on the measure (H.R. 5765).

The Interstate Commerce Commission's control of rates on truck transportation of agricultural commodities has been a hot controversial item within Congress for a long time.

Originally, Congress granted an exemption for all haulers of agricultural commodities from ICC rate control. Since that time a combination of ICC proponents and the trucking industry has attempted to grant ICC some super-controls over these exempt agricultural commodities. Thus far, Congress has rejected such efforts of ICC to by-pass the Congress.

Now that E. C. Gathings has introduced his bill, farmers may get the same treatment on truck delivery of fertilizers that they would get on seed. Since the plant food and pesticidal chemical industries are sitting on a hot seat as far as transportation costs are concerned, this is an important development.

It thus seems highly appropriate that plant food manufacturers and dealers, pesticide dealers, distributors and others may find it well worth while to write to their congressional representatives on this issue. Congress seems apathetic at this time toward backing the Gathings bill.

Such appeals to Congress should not be mimeographed comments. No matter where one is located or what segment of the industry he may represent, now is the time to swamp Congress with a demand for hearings on the Gathings Bill, H.R. 5765. Just ask for a hearing on this measure.

The most effective way to impress Congressmen is to put a request in your own language for a fair hearing on this bill or what this transportation break would mean to agriculture.

ibberellins Show omise in Michigan ate Experiments

EAST LANSING, MICH. — New wth promoting chemicals, gibberins, are promising earlier market turity in several crops in tests at chigan State University.

Celery has been matured two to r weeks earlier. Marketable heads broccoli have been produced 10 to days earlier and field beans have atured about a week earlier. ocks, a greenhouse flower crop, flowered three to six weeks ear-.

According to Sylvan Wittwer, chigan State University horticulral researcher heading up the dies, the materials have at least promising applications for Michin:

Producing earlier market maturity some crops;

Speeding up the flowering of such nuals as lettuce and radishes for d production;

Hastening the germination of seed;

Promoting fruit set in crops such tomatoes and cucumbers;

Increasing the stem and leaf wth of a crop such as celery. In SU tests, gibberellins increased the ckness of the leaf surface and alst doubled the length. Fresh and weights were increased up to %.

Mr. Wittwer believes there may e similar uses on many more rops. For instance, the chemicals ay be useful in overcoming the idsummer dormancy in certain asture grasses such as bluegrass. oundaries for the successful prouction of many crops may be oved further north.

Another test of the chemicals also dicates their promise in helping rmers plant crops earlier. Seed aked in a gibberellin solution gerinated more rapidly and seedlings me up earlier. This stimulation is rticularly pronounced at low temratures.

According to Mr. Wittwer, the gibrellins have produced results that other growth promoters have en able to do. They can: eliminate warfism in many plants; produce bstantial increases in dry matter yields; induce flowering in many ennials without using the normal ld treatment; cause plants requirg long-day of light to flower under ort-day conditions; and induce ng-day plants to flower two to four eeks under normal conditions.

Carrots, cabbage, kale, collards, rnips, rutabaga, stocks, forget-meots, foxglove, hollyhocks, pansy, weet William and Canterbury bells e biennials that have been made flower without the cold treatment.

Petunias, head and leaf lettuce, adishes, dill, mustard and spinach e long-day plants that have flowed under short-day conditions.

The gibberellins are effective over wide range of concentrations and not appear to harm foliage or deorm fruit when applied in low dosges, Mr. Wittwer said.

Market, storage and eating qualies do not seem to be affected but ore tests must be completed before efinite recommendations can be ade for using the materials in egetables. However, commercial reparations are now available for se on flower, vegetable and fruit rops.

OREGON PRICES STEADY

PORTLAND, ORE.—Oregon farm rices during February failed to ollow the national downward trend ith the Oregon Crop and Livestock eporting Service reporting the state dex of prices unchanged for the eriod ended Feb. 15. The United tates farm index declined 2% from e previous month.

Proposed Oregon Legislation Summarized

PORTLAND, ORE. — J. F. Short, Oregon State Department of Agriculture director, released a brief resume of bills introduced in the Oregon Legislature to date. The resume included some bills which are housekeeping amendments suggested by the department after consultation with industry, while others are sponsored solely by the affected industry.

House Bill 283 would create a ragweek control area of Benton, Clackamas, Clatsop, Columbia, Coos, Curry, Douglas, Lane, Lincoln, Linn, Marion, Multnomah, Polk, Tillamook, Washington and Yamhill Counties and appropriate $50,231.52 for control measures in the next biennium.

Grain warehousing would be affected by House Bill 292 which amends the grain warehouse licensing act; provides for notification to owners of stored grain if the warehouse is to quit business; in case of insolvency, authorizes the department to help work out the situation and if this cannot be done to request receivership of the circuit court; permits deposit of grain for purposes other than storage if accompanied by a signed statement; and adds a sanitation provision to the law.

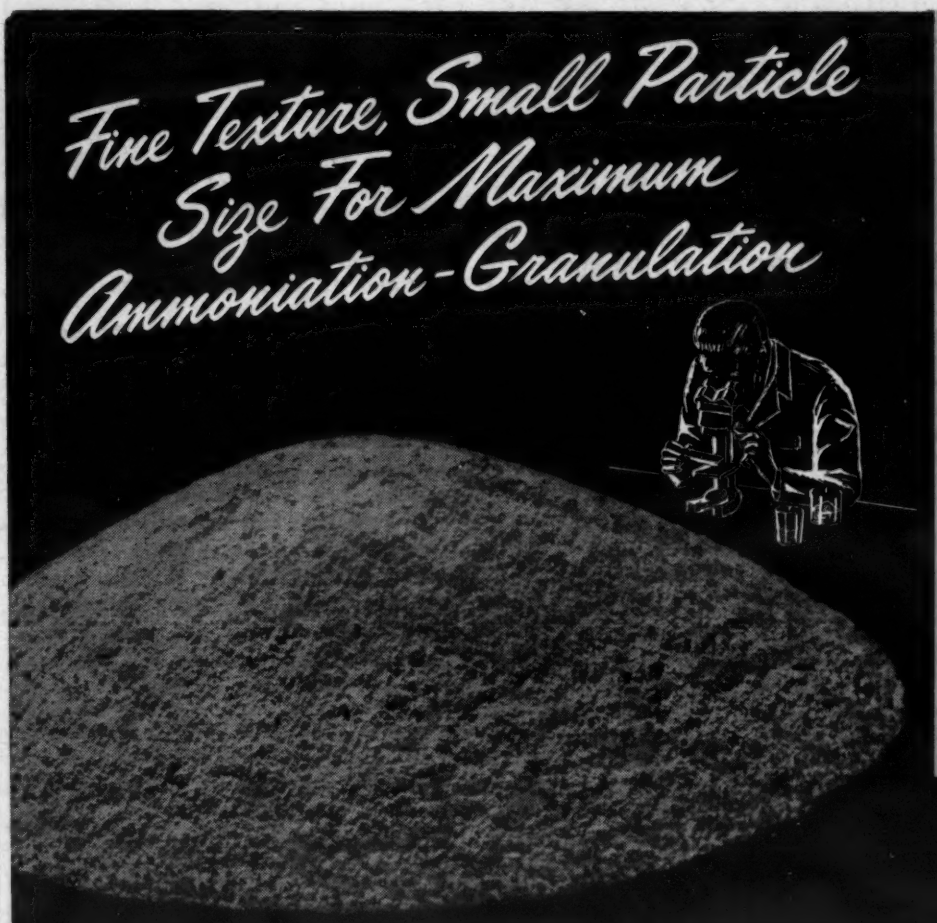
Senate Bill 13 permits the department to attempt to settle disputes over alleged damage from spray application without cost to either party.

Velsicol Appoints New Advertising Agency

CHICAGO — Velsicol Chemical Corp., manufacturer of Heptachlor, Chlordane and Endrin insecticides, hydrocarbon resins and other petroleum derived chemicals, has announced the appointment of Allen Advertising Agency to handle the company's promotional activities. Appointment of the new agency is described by Velsicol advertising manager, L. E. Carls, as part of long range plans for expansion of Velsicol's sales program.

In 1957, Velsicol will increase advertising for all divisions, placing special emphasis on agricultural applications of Heptachlor insecticide, and lawn and garden applications of Chlordane insecticide. More farmer and consumer advertising, more literature, more educational aids and more dealer promotional material will be used in 1957 than in any previous year, Mr. Carls said.

All phases of the program will be handled through Allen Advertising. Media selection and promotional activities for agricultural chemicals will be geared for close support of Velsicol's formulator customers, and, for the most part, will consist of strong regional campaigns. Lawn and garden advertising will be national, with supplementary local programs in key areas. The industrial program will be national in scope, and will consist primarily of advertising in trade magazines.



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INDUSTRY SPOKESMAN SAYS . . .

Low Cost Fertilizer May Be Bad for Trade in Long Run

By A. H. BOWERS
Agronomist, Swift & Co.
Chicago, Ill.

The problems of pricing, discounts, and other factors entering into the sale of fertilizers sometimes become so large that they tend to obscure the equally important needs for education, promotion and advertising, in the local territory. If these latter needs were met better, it would result in fewer burdens in the effort to show results.

How does one look at the price of plant food? A sales manager might answer in colorful language that the price is too low. A county agent might add up raw material costs . . . sulfate of ammonia, superphosphate, and muriate of potash, and say the price is too high. Between the two, perhaps we can stir up some thinking.

They say that money talks in unmistakable terms. Or ARE they unmistakable? The fertilizer dollar says, "Your fertilizer dollar goes farther!" "Fertilizer prices, in terms of plant food content, have advanced less than 10% since 1939. Prices of all items farmers buy have advanced 129% in the same period. The average plant food content of a ton of fertilizer in 1939 was 20.3%. Today, it averages 27.9%. The increase in plant food content has largely offset price rises. Thus, on the basis of what is actually in the bag, fertilizer has risen in cost less than 10% since 1939!"

In citing this situation, it is at once both an accolade and an indictment. Upgrading plant food content has been a matter of technological advances and increases in efficiency, and these rate the accolade.

But something is wrong somewhere when so huge an item in the nation's economy, plant food, does not follow at least the average inflationary trend of other commodities used on the farm which have experienced just as great technological advances and increases in production efficiency. At least one prominent fertilizer company reports that the last year it made 2-12-6, in 1953, that the price of the 2-12-6 was only $1.35 more than a 1-15-2 they manufactured in 1919!

Now, as a promotion man, I'm not unmindful of the sales appeals advanced in this "fertilizer dollar" and of its uses in consumer sales promotion, but at the same time, I wonder if it tends to perpetuate a bargain to the farmer that is actually unsound to the industry supplying this commodity? This question should be put to everyone; industry and college people alike.

At the meeting of the American Association of Fertilizer Control Officials this fall, Hugo Riemer, president of the Nitrogen Division, Allied Chemical and Dye Corp., addressed the group on the subject, "Industry is Serving the Public Interest." He gave a passing nod to the usual material benefits a strong industry advances—creation of wealth, service to the public, raising of the standard of living and of our state of national security.

Now I don't ordinarily like to read into my own remarks so much of another's words, but Mr. Riemer's observations and main points of emphasis are so important to my subject here, and to both college and industry people interested in fertilizers, that I include the following extract. Said Mr. Riemer:

"However, these are only material things and familiar enough to us all to fall into the category of cliche. After the traditional, primary concerns of food, clothes and shelter are provided for, we are likely to turn to our deep convictions about liberty and the worth and the dignity of man as an individual, rather than as a cog in an impersonal state machine. Here again, which for want of a better term, may be called the spiritual realm, industry is serving the public.

"This, I know, is heresy. Industry, particularly the industrial manager, is supposed to be materialistic to an extreme, and incapable of functioning in the spiritual realm . . . Perhaps so. We need not contest the point, but this, I think, we will all concede: It is the effectiveness of our application of capital and labor to the public interest, it is the productivity of our industry which has supplied the means to build and support our schools and colleges, our churches, our libraries, our museums, our symphonies, and has given us the leisure for cultural development."

He went on to say: "I do not mean to suggest that industry is a philanthropic enterprise. As I said at the outset, industry is the means by which the public achieves its objectives of more and better goods and services. Under the terms upon which our society is organized, we rely on personal gain as the incentive to create industry, to participate in it and to carry it through for the public good. Further, we rely on profit to the industry to provide the means for its own renewal, diversification and expansion to supply the public need.

"The only alternative is direction and control by an all-knowing and all-powerful state, which, of course, would be the negation of freedom." So says Mr. Riemer—and to me they are ringing words on behalf of the system which makes this country great.

Another function of industry is publicity and "glamorization" of means to human betterment through advertising and promotion of goods and services leading to this end. In the case of plant food usage, the cumulative effect of advertising and sales efforts—of stimulating interest in using more plant food—has aided and abetted the educational efforts of the colleges immeasurably. The educational efforts of national and regional trade groups have made the whole industry benefit through their programs.

Yes, these educational and promotional activities cost money, and they all go into the price of fertilizer. But without their impact in setting the stage, the process of diffusion of recommended practices from campus to farm would be slow indeed—and the educational effort of extension multiplied a thousandfold. Through mass media, the wants are awakened; through extension the best methods of attaining these wants are obtained.

However, if extension recommendations depart from the "where and how much and when" of plant food usage and become concerned with "in what form" the plant food should be purchased and the price each nutrient is worth in the estimate of the individual making the recommendation, then the benefits of merchandising and advertising go out the window. Competition from an unexpected quarter enters the field and the supplemental materials the plant food manufacturer carries as service items for his customers get the nod above his own brand which he manufactures himself—brands which carry the costs of stocking and handling those same materials.

Let me illustrate the importance of promotion and brand advertising—and the lack thereof—with two examples, widely divergent though they may be. If you will pardon a reference to a product of my own company, let's take a look at the overall effect of 26 years of advertising one of these products. I am confident that there is not a man in this room, whether a competitor in the home garden trade or whether a staff member here, that will not agree that this product has made home owners plant food conscious. I also believe they'll agree that, over all, this consciousness has actually aided their efforts to establish their own brand on the market, or has eased the diffusion process of latest home garden recommendations from college to backyard gardener.

So there is an example of the impact of fertilizer promotions.

Now in contrast, let's look at the plight of agricultural limestone. Here is an item with no more glamour than manure salts or ordinary superphosphate. Like them, it is a mundane staple sold by the ton just like so much builder's sand. It's cheap—so cheap that producers and dealers of lime are giving up. They can't afford promotion, and the burden of promotion has been left to the experiment stations, and to the volunteer efforts of the plant food industry and its trade association.

But neither is equal to the task and we all know the trend of lime consumption since the artificial market established under the old PMA and AAA subsidies collapsed. How to reverse this trend I don't know . . . The plant food industry is doing some educational work because of the potential detriment of inadequate liming to plant food results. But more than indirectly interested sources are needed to publicize and promote the use of agricultural lime.

Now I don't believe that plant food will ever find itself in the plight of limestone, but there are portents. 1955-56 consumption is down 4.4% over-all, 5.13% down in the East North Central area. And in Indiana, according to the bulletins, average corn yields could be increased from 53 to 64 bu. and wheat increased from 26 to 33 bu. per acre, if farmers used recommended quantities of plant food—quantities considerably above those used when this bulletin was prepared and fertilizer consumption was at an all time peak.

So I say, let us spend more time on broadening our entire market through the local activities I mentioned; disseminating state recommendations, planning and lining up demonstrations, ad selling the consumer. The dealers will come along a lot easier if you go to see them with a good chunk of business all lined up for them.

W. R. Thompson, "the pasture man" from Mississippi State, made a statement recently to the Ammonia Institute in Atlanta that can well be remembered. Said he: "There was a time when farmers spoke of fertilizer in terms of its cost. Now they say, it pays! This is a complete about face in thinking. Most crops in America are classified by farmers on the basis of how much money can be invested with a return on that investment. When one thinks about a dollar being invested in fertilizer and the return being 4 or 5 in crops, it is no wonder that the fertilizer industry can sell its value to the American farmers!"

Still, there's a big gap to close between recommended plant food rates and actual use. So let all of us direct greater efforts to selling the benefits that are in the bag, and let the Farmer do his own shopping.

Jack E. Davis

Jack E. Davis Named to New Post By Diamond Alkali

CLEVELAND—Promotion of Jack E. Davis to the post of special staff assistant in the sales department of Diamond Alkali Co., Cleveland, was announced here by W. H. McConnell, vice president, sales.

Mr. Davis comes to his new position following nearly 11 years' experience as a member of the company's Philadelphia branch sales staff. He joined the Diamond organization in September, 1939 as a sales clerk in Pittsburgh and was transferred to Painesville the following year.

A native of Pennsylvania, born in Swissvale, he was graduated in 1938 from the University of Pittsburgh with a B.S. degree in business administration. Mr. Davis is a World War II veteran, having served in the Army, from August, 1943 to April, 1946, when he returned to Diamond. Since then, as a member of the Philadelphia sales staff, he has represented the company in the eastern Pennsylvania area.

Calspray Moves District Offices to Salt Lake City

SALT LAKE CITY—The California Spray-Chemical Corp., has moved district offices and warehousing to Salt Lake City and will occupy quarters at 1500 S. Redwoood Rd., as soon as they are completed, Blaine C. Taylor, district manager, reports.

The firm announced the shift in headquarters from Caldwell, Idaho, to Salt Lake City from its Richmond, Cal., offices.

The new headquarters here will be the central base of operations in the Mountain West area for the sale and distribution of Calspray's Ortho insecticides, fungicides and plant food.

The district includes Utah, southern Idaho, Montana, Colorado, Wyoming, western Nebraska and northern New Mexico.

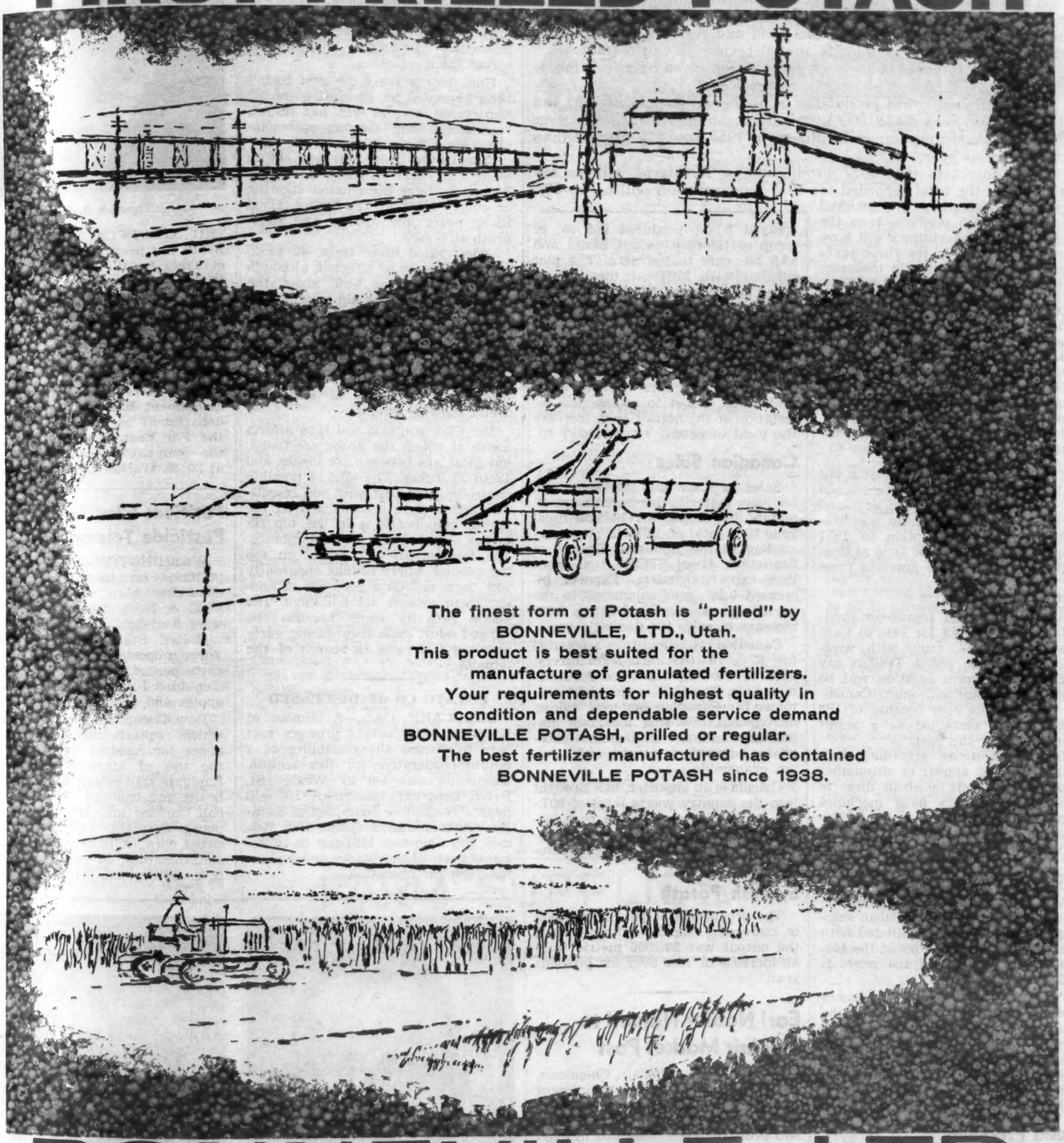
The branch office for home garden products has been located in Salt Lake City for several years, Mr. Taylor said. He was formerly the Utah state entomologist.

Besides the Ortho brand pesticides, the new headquarters here will handle the new line of Ortho pelleted fertilizers as well as Ortho liquid plant foods. The district manufacturing plant at Caldwell will remain there for the time being, Mr. Taylor said.

HORTICULTURE DAY

DURHAM, N.H.—Home Horticulture Day will be held at the University of New Hampshire April 3. The program will include talks on control of insects and plant diseases and methods of fertilizing, weeding and irrigation.

FIRST PRILLED POTASH



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WORLD REPORT

By GEORGE E. SWARBRECK
Croplife Canadian and Overseas Editor

A steady increase in the production and consumption of fertilizers has colored the industrial picture in the years 1954 to the present time. This has been revealed by the Food and Agriculture Organization of the United Nations in its annual review of world trade.

The data presented is based on information given by governments up to Sept. 28, 1956.

The combined world production of nitrogen, phosphoric acid and potash in 1955 was 19,230,000 metric tons, an increase of 9% over 1954. World consumption of fertilizers in 1955 was 5% greater than in the previous year.

FAO forecasts that 1957 production of fertilizers will be 6% greater than the total recorded for 1955; consumption will be up 3%. If these 1957 forecasts are achieved in the way FAO predicts, then the production of all fertilizers will have increased by 21% in the three years from 1954. Consumption in the same period will have been upped by 15%.

Once again nitrogen shows the largest and most consistent rate of world wide increase in both production and consumption. The percentage increases for potash are a little lower. Superphosphate, FAO says, has held its dominating position in the industry, supplying 73% of world phosphoric acid in 1955.

The 1957 production forecast is put at 21,359,000 tons of fertilizers made up of nitrogen, phosphoric acid and potash. The 1956 estimate was 20,220,000 tons. Consumption in 1957 is assessed at 20,000,000 tons against 19,359,000 tons in the previous year.

Seed Treatment

At least 41 seed treatment products will be offered for sale in Canada during 1957, some with wireworm insecticide added. Traders say that the wireworm addition will be a big sel'ing point with many Canadian farmers this year because of the heavy losses sustained as a result of the pest in the past.

Dry preparations, according to a market survey, appear to outnumber liquid preparations by about three to one. Many farmers have machines designed for wet treatments and the practice is to convert the dry form to slurry.

Fertilizer Freighter

A 3,200 ton freighter has been ordered from Norway by a Cuban shipping company which is affiliated with a fertilizer mixing factory in the Havana area. The cost of the vessel is $1.5 million.

The Cuban Foreign Commerce Bank, a semi-state agency with the function of insuring the sale of products in foreign markets, assisted in financing the purchase. The ship is expected to save about $30,000 a month now being paid to foreign carriers.

Weed Problems

Tests conducted on 50 farms in Manitoba in 1956 showed that weeds reduced the grain yield by 15.9% and were the most important factor in reducing crop yields in Western Canada generally.

The use of herbicides could have prevented much of this loss, asserts the Canadian Department of Agriculture. However, it warns that to realize maximum benefit from the use of herbicides timeliness of application is of first importance. Early spraying is stressed.

The benefit derived from following this precept has been illustrated by a trial undertaken by the department at one of its experimental farms. Oats were heavily infested with hemp nettle and it was decided to treat the area with MCP in two different growth stages. An unsprayed plot produced 905 lb. of hemp nettle (dry weight basis) and 53.5 bu. oats to the acre. The plot sprayed with MCP at the rate of 6 oz. to the acre, when the nettles had 4-6 leaves and the oats 3-4 leaves, produced 79.5 bu. of oats and only 227 lb. hemp nettle.

The same spray treatment applied later, when the nettles had begun to bud and the oats were in early shot blade, failed to reduce the infestation of the nettles or to increase the yield of oats.

Canadian Sales

Sales of Canadian fertilizers and fertilizer materials increased approximately 4% during the 1955-56 fiscal year to a total of 1,671,497 tons, according to the Dominion Bureau of Statistics. About 871,000 tons went into export channels. Exports increased 6.5% over shipments in the preceding year compared with a 1.3% increase in sales for domestic use.

Canadian consumption accounted for 82% of the mixed fertilizers; 96% of the exports were fertilizer materials. The U.S. is the chief customer for Canadian material, taking nitrogenous products, including ammonium sulfate, ammonium phosphate, ammonium nitrate, and calcium cyanamide.

Canada is an importer, too. Brought into the country was a total of 907,599 tons, mainly phosphate rock, superphosphate, potassium muriate, potassium sulfate and nitrogen solutions.

Spanish Potash

The production of potash in Spain is increasing rapidly. During 1956, the output was 230,000 metric tons, an increase of 18% over the previous year.

Earl Noblet Named to Sinclair Market Post

NEW YORK—Sinclair Chemicals, Inc. has announced the appointment of Earl Noblet as assistant manager of market development. Mr. Noblet had previously been engaged in market research activities.

A native of Fairhaven, Mass., Mr. Noblet graduated in 1949 from Brown University with a bachelor's degree in chemistry. He joined Sinclair in 1954 after five years' experience in research and development of organic intermediates and nitrogen chemicals.

North Carolina Shipments

RALEIGH, N.C.—North Carolina fertilizer shipments during January totaled 74,933 tons, compared with 86,554 tons in January, 1956, according to the North Carolina Department of Agriculture. Shipments for the July-January period of this fiscal year totaled 291,167 tons, a decrease from 311,736 tons during a corresponding period a year earlier.

Soil Insecticides May Be Answer to Rain Beetle Control

HOOD RIVER, ORE.—Soil insecticides may eventually lead to an effective way to check damage of orchards along the mid-Columbia by a bug in the scarab class called "rain beetle."

This was indicated by Floyd E. Ellertson of Oregon's Mid-Columbia experiment station, here, after a group of orchardists saw damage to apple trees in the Glacier orchard of Skamania County, Washington, across the river.

Until recent years the pest hadn't been regarded as of any economic importance, and, in fact, had been a "collector's item" among entomologists, Mr. Ellertson said.

It had lived in the soil long before white man's arrival. Three species, all damaging, have been found chewing on cherry roots at The Dalles, Hood River pears and apples, and sagebrush at Wasco.

Oldest Hood River trees, 40 to 45 years old, are most affected, although the population has been about the same around 25-year old trees. It apparently takes a good number of years before there's damage.

Variety seems to make no difference. More damage has been noted to apples than to pears. And some Hood River pear orchards of good age aren't showing effects.

Mr. Ellertson said soil type affects depth at which the grubs are found, but most are between six inches and 18 to 23 inches. The idea of possibly controlling the pest with soil insecticide comes from knowledge that the female rain beetle is in the top six inches of soil for five or six months. The females are also found on top the ground, where skunks apparently like them and do a good job of finding them around old buildings. The beetle gets its name because the winged adult male flies during early morning fall rains in search of the females.

POTATO CO-OP DISCUSSED

TULELAKE, CAL.—A number of Klamath basin potato growers met here to discuss the possibility of a potato cooperative for this section. Discussion was led by Wesley St. Peter, temporary chairman. He will head a committee composed of Stan-Buckingham, Elmer Olson, Ben Reimer and Sherman Milligan to investigate costs of machinery and a plant for such an operation.

Thomas A. Bruns

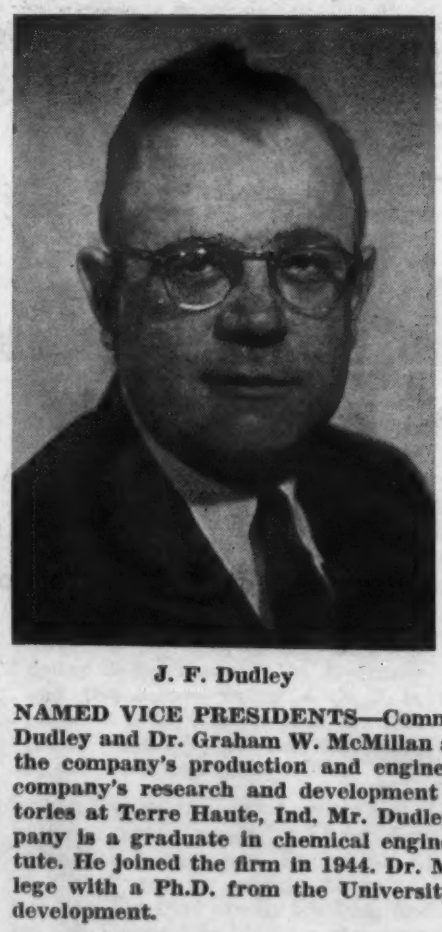
IMC APPOINTMENT—Thomas A. Bruns has been appointed area sales manager for the Phosphate Mineral Division of International Mineral and Chemical Corp., according to S. T. Keel, division sales manager. He will be responsible for sales of phosphate rock for agricultural and industrial uses in northern U.S. and eastern Canada. Mr. Bruns joined IMC 10 years ago and prior to his new assignment had been in the export department as manager of sales in the Far East. His office will be in the company's general headquarters at 20 N. Wacker Drive, Chicago.

Petitions Filed for Pesticide Tolerances

WASHINGTON—The fi'ing of two petitions for tolerances for pesticides has been announced by the Food & Drug Administration. They were fi'ed by:

United States Rubber Co., New York, proposing a tolerance of three parts per million for residues of 2,3-dich'oro-1,4-naphthoquinone in or on apples and peaches.

Dow Chemical Co., Midland, Mich., which requests the following tolerances for residues that result from the use of ethylene dibromide to fumigate soil: celery, 200 ppm.; green beans and cabbage, 100 ppm.; broccoli, melons and Irish potatoes, 75 ppm.; eggplant, summer squash, sweet corn (with or without forage) and tomatoes, 50 ppm., and cucumbers, lettuce and peppers, 30 pp.m



J. F. Dudley

Dr. Graham W. McMillan

NAMED VICE PRESIDENTS—Commercial Solvents Corp. has elected J. F. Dudley and Dr. Graham W. McMillan as vice presidents. Mr. Dudley will head the company's production and engineering activities and Dr. McMillan the company's research and development program and central research laboratories at Terre Haute, Ind. Mr. Dudley, formerly chief engineer for the company is a graduate in chemical engineering from Virginia Polytechnic Institute. He joined the firm in 1944. Dr. McMillan, a graduate of Monmouth College with a Ph.D. from the University of Illinois, was formerly manager of development.

Special Merchandising Section

Better Selling

Marketing News and Features

FREE TEST APPLICATIONS

Farm Demonstrations Boost Sales for Pennsylvania Dealer

By PHIL LANCE
Croplife Special Writer

Competition in dry fertilizers had always been keen in Hershey, Pa., and surrounding counties, so Irwin K. Curry decided to get the "drop" on his competition by promoting the sale of anhydrous ammonia and liquid fertilizers. But getting the "Plain Folks" of central Pennsylvania to use something comparatively new was another thing and Mr. Curry had to overcome this obstacle.

"We attached a rig onto a tractor and decided to do a little free spraying," explains Mr. Curry. "We selected farmers who were situated in the center of lush growing country to use as demonstration fields and then invested in the labor and materials to do a little spraying. When the farmer and his neighbors saw the results, we started getting calls for liquid fertilizer, the use of our tractor and the more aggressive ones bought their own."

When Mr. Curry selected the farmer whose acreage he was going to spray, he called on him to explain his free offer. Then he promoted the demonstration in a newspaper ad and had his son, Bud Curry, visit the neighbors of this farmer to tell them when they could see the spraying demonstration. During these visits, he left a small quantity of liquid fertilizer for the farmer's wife to use in her garden or small vegetable patch and told the farmer to look for the results.

"Each demonstration brought interested viewers and it aroused a lot of interest," says Mr. Curry. "The simplicity of attaching a rig to any tractor, pouring in the liquid and letting it spray showed how little effort it took to apply. And every onlooker was on the watch to see what it would do for the farmer's crops."

As only a portion of the farmer's acreage was fertilized, it showed remarkable results over the rest of the field and Mr. Curry was called upon to complete the job. When additional sprayings were necessary, he was called again. Neighboring farmers watching the first farmer's crops decided to try liquid fertilizer and it has now spread to a point where liquid fertilizer outsells dry fertilizer.

"Actually, it doesn't matter to us which we sell, as long as we sell," says Mr. Curry, "but competition in dry fertilizers was becoming so fierce that we were handling it without profit. Then we decided to handle liquid fertilizer and we are selling it at a full mark-up and even making money on our spraying service."

Because of the increasing popularity of liquid fertilizers, Mr. Curry has obtained more than a dozen of the tanks on wheels. The product and services rendered by the firm are painted on the tanks in large letters. Periodically, these tanks are hauled to heavy traffic sections and parked where they act as billboards.

"The larger users are now buying their own spraying equipment and many even ordering these holding tanks from us," says Mr. Curry. "Once we sell a customer on the idea of using liquid fertilizer, we can expect to enjoy his business season after season."

As liquid fertilizer gains greater acceptance, Mr. Curry expects to handle the sale of this commodity just like fuel oil deliveries. The routemen that drop off feed orders are to be instructed to check the tanks to see what quantities are in storage, then to take along a determined quantity on their next delivery. Naturally, this sales pitch will take place as the seasons for fertilizer use come around. By keeping the farmers' liquid fertilizer tanks full, Mr. Curry expects to stimulate the use of this commodity.

"The most popular grains in this area are corn, wheat, barley, oats and rye," says Mr. Curry, "and we have a liquid fertilizer that we feel is excellent for each of these crops. And a very strong sales aid, on our side of the picture, is the farmer's wife whom we always supply with a sample quantity of liquid fertilizer. When her garden enjoys excellent growth, the farmer hears about it and this creates inquiries."

"We're only scratching the surface of the potential of liquid fertilizer in this area because the 'Plain Folks' are a hard lot to convince," explains Mr. Curry. "But our free demonstrations do it and we intend to keep right on introducing liquid fertilizer by this method."

MAINE TESTS

ORONO, MAINE—Greenhouse tests at the Maine Agricultural Experiment Station have shown little difference between the availability of the granular form of fertilizer and of the pulverized form during dry seasons.

SHOP TALK

OVER THE COUNTER

FOR THE DEALER

By EMMET J. HOFFMAN
Croplife Merchandising Editor

Some words of caution contrasted with others predicting bright things for agricultural chemical dealers at the recent convention of the Mutual Millers & Feed Dealers Assn. at Buffalo.

E. B. Stalnaker, Jr., assistant manager of the American Agricultural Chemical Co., Buffalo, told the group that many manufacturers of liquid mixed fertilizers in the Midwest were breaking even or losing money. Many did not estimate cost of equipment correctly, he stated, and were curbed by a direct sales radius of 20 to 25 miles. He further noted that in some areas large farmers were combining and erecting their own plants on a "break-even basis." He cautioned against letting "production get ahead of research," and urged the dealers to use caution and not urge change for the sake of change.

Commenting on the advantages of liquid over dry fertilizer Mr. Stalnaker noted lower capital investment in equipment; power and labor saving in manufacturing; less labor expense for application, and ease in changing from one grade to another.

Among the disadvantages he listed limited plant food; low secondary trace elements; plant service areas of 20 to 30 miles, and application to growing plants must be diluted. He noted that midwestern producers are also applicators.

In the address, Mr. Stalnaker pointed out that it is not definitely known how much fertilizer a plant can absorb through its leaves. However, some crops benefit greatly from foliar application of liquid fertilizer.

The role of the dealer in farm weed control was outlined by Clyde A. Bryant, manager of farm use herbicides, Dow Chemical Co., Midland, Mich., who stated that "the dealer fits very well in the picture because today every farmer is a potential customer for some type of herbicide."

He saw a very bright future business pattern for the dealer in this field, indicating that by 1961 herbicide sales by dealers will double, and by 1975 they will quadruple.

Mr. Bryant declared that, generally speaking, manufacturers have become and will become more interested in encouraging dealers to handle the products and will make it attractive profitwise for them to handle the products.

Mr. Bryant saw in the future, products that would be streamlined and simplified with literature regionalized, simplified and distributed. Profits to the dealer will be increased by far, he stated.

Apple Production Down In Northeast States

MORGANTOWN, W.VA.—Apple production in the Northeast, where about one-third of the nation's crop is grown, declined 27% last year.

The nation's apple bin held more than 97 million bushels. The 12 Northeast states contributed 31½ million bushels to the supply. New York State was top Northeast producer, with 13½ million bushels last year. The Empire State was also second largest producer in the nation, following the state of Washington.

Pennsylvania ran second in the Northeast, with about 4.6 millon bushels. West Virginia was third, with over 4 million bushels. New Jersey was next, with 3 million bushels. Maryland and Delaware followed with a combined total of about 1.4 million.

DELAWARE CORN BORER LOSS

NEWARK, DEL.—Estimates place the 1956 corn borer loss in Delaware at $849,000.

FARM SUPPLIES

"Don't you think that I've forgotten that fertilizer bill you've owed me since last fall, Joe Doaks!"

Irrigation Calls for Step Up in Yields

MANHATTAN, KANSAS — Dr. Glenn H. Beck, director of the Kansas Agricultural Experiment Station, told a recent sprinkler irrigation conference at Kansas State College that yields under irrigation must be stepped up at least three times.

Farmers using irrigation must quit thinking in terms of 60 to 80 lb. of fertilizer an acre and start thinking of at least 200 lb. an acre, he said.

What's New...

In Products, Services, Literature

You will find it simple to obtain additional information about the new products, new services and new literature described in this department. Here's all you have to do: (1) Clip out the entire coupon and return address card in the lower outside corner of this page. (2) Circle the number of the item on which you desire more information. Fill in your name, your company's name and your address. (3) Fold the clip-out over double, with the return address portion on the outside. (4) Fasten the two edges together with a staple, cellophane tape or glue, whichever is handiest. (5) Drop in any mail box. That's all you do. We'll pay the postage. You can, of course, use your own envelope or paste the coupon on the back of a government postcard if you prefer.

No. 5657—Seed Germinator

The addition of the new Minnesota style germinator has been announced by the Seedburo Equipment Co. The germinator is a water cooled unit designed for organizations which need to maintain uniform temperature and accuracy, the company announcement states. The water is circulated through copper tubing built within the walls of the germinator, thus preventing leakage. Further information and prices on the firm's line of germinators may be obtained by checking No. 5657 on the coupon and mailing it to this publication.

No. 5661—Vibrating Feeder

The Cleveland Vibrator Co. has introduced a new vibrating feeder in which the vibrating force is generated by a pneumatic drive mechanism. The feeder is completely metallic, and is claimed to resist high temperature damage and corrosion. Literature shows one moving part in the drive mechanism; no cams, bearings, belts or gears. The enclosed construction is designed to seal out dirt and keep the drive free from destructive foreign matter. A wide variety of bulk material can be handled,

the company states, and uphill feeding of some materials at 20° is possible. Rates of feed are adjustable. The feeders are available in pan, trough or tubular construction, with a selection of lengths and rates of feed. Check No. 5661 on the coupon and mail it to secure full information.

No. 6545—Liquid Fertilizer Applicator

New literature has been prepared by the M. & F. Manufacturing Co. on its product called by the trade name, M&F Distributor, a unit for applying liquid fertilizers, solutions, weed killers and other liquids by the gravity method. The unit is furnished with a 1-in. inlet valve so that the entire job of assembly can be done by the user. Also available is an adjustable nozzle which can be drilled by the fertilizer dealer or user to give him an option of three different size orifices for adjusting the rate of application. The nozzles are made to insert in a ½-in. inside diameter hose and the size of the orifice is selected by rotating the nozzle cap. Secure the literature by checking No. 6545 on the coupon and mailing it to Croplife.

No. 5660—Display Fixtures

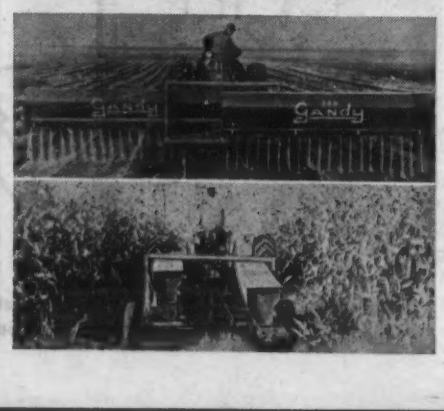
A four-page bulletin on store display fixtures, some of which are applicable to retail feed stores, has been issued by the Sitka Store Fixtures Co. The fixtures are designed to give maximum display and eye appeal to merchandise at strategic points where store traffic is at a maximum. The items also are designed for easy self-service. Interested dealers may obtain a free copy of the folder by checking No. 5660 on the coupon and mailing it to this publication.

No. 6548—Laboratory Crushers

The American Pulverizer Company's new bulletin, "Better Testing and Small Scale Reduction," describes laboratory crushers used for crushing laboratory samples, ores, chemicals and other diverse materials. Capacities of the crushers described range from 600-2,000 lb. per hour, depending on the materials and degree of fineness required. Typical installations are illustrated. The bulletin may be secured by checking No. 6548 on the coupon and mailing it to Croplife.

No. 6543—Fertilizer Spreader

A 20-ft. wide, spreader-seeder that folds to less than 8 ft. in width for highway travel has been announced by the E. S. Gandrud Co. The unit is also claimed to minimize the soil compaction problem in wet fields. The unit holds more than one ton of fertilizer at one time using either bulk or bag fertilizer. Two hoppers make it possible to use the spreader for application of mixed fertilizer or the application of two straight elements, one from each hopper. The unit is said to be ideal on cultivated land, pastures and hayland, as well as for side dressing six rows of corn at one time or banding fertilizer as in cotton. The seeding of brome grass, oats and other cereal grains or grasses is also possible. The unit is said to be suitable for custom work by dealers. Check No. 6543 on the coupon and mail it to Croplife to secure complete details.



No. 6546—Formulator's Folder

Formulators of all types of insecticides may secure without charge a publication entitled, "Pyrenone Facts Folder," prepared by the Fairfield Chemical Division of the Food Machinery & Chemical Corp. The contents include sections devoted to time-saving helps, resistant insects, household products, dairy sprays, garden and truck crop insecticides, livestock sprays and powders, food handling and processing, aerosols and pressurized sprays, condensed product data and specifications for the company's products. Formulators may secure the folder by checking No. 6546 on the coupon and mailing it to Croplife.

No. 5652—Tail Gate

An electric tail gate for trucks, called by the trade name, "Jiffy-Lift," can lift up to 600 lb. in 15 seconds, it is claimed by the manufacturer, Mid West Body & Manufacturing. The tail gate's motor is reversible; it has a built-in motor brake and the heavy duty push button control has a built-in lock for security. The all-steel ramp unit weighs 225 lb. and is designed for ½- and 1-ton trucks. All moving parts run on ball bearings. The unit is designed to permit the truck to operate within its present license fee. The tail gate is delivered completely assembled and ready for installation. Secure complete details by checking No. 5652 on the coupon and mailing it to this publication.

No. 6547—Piperazine Booklet

A recently published booklet on piperazine is announced by the Dow Chemical Co. The booklet describes the properties, reactions and uses of the compound. Toxicological and handling information is included. Piperazine derivatives have been tested as fumigants, insecticides, fungicides and antimicrobials. Secure the booklet by checking No. 6547 on the coupon and mailing it to Croplife.

No. 5650—Seed Treater Attachment

Two different seed treating chemicals may now be applied simultaneously through use of the dual reservoir attachment recently announced by Panogen, Inc. The attachment for seed treaters was developed so that two physically incompatible materials could be applied at the same time without mixing before they reach the seed, state company officials. They continue: "This, for example, permits the seed processor to apply Drinox, the liquid

Also Available

The following items have appeared in the What's New section of recent issues of Croplife. They are reprinted to help keep retail dealers on the regional circulation plan informed of new industry products, literature and services.

Send me information on the items marked:

☐ No. 5648—Side-Dump Body	☐ No. 6541—Rotary Mixer
☐ No. 5650—Seed Treating	☐ No. 6542—Applicator Kit
☐ No. 5652—Tail Gate	☐ No. 6543—Fertilizer Spreader
☐ No. 5657—Germinator	☐ No. 6544—Methallyl Chloride
☐ No. 5660—Display Fixtures	☐ No. 6545—Applicator
☐ No. 5661—Vibrating Feeder	☐ No. 6546—Folder
☐ No. 6539—Suction Strainer	☐ No. 6547—Booklet
☐ No. 6540—Growth Stimulant	☐ No. 6548—Crusher

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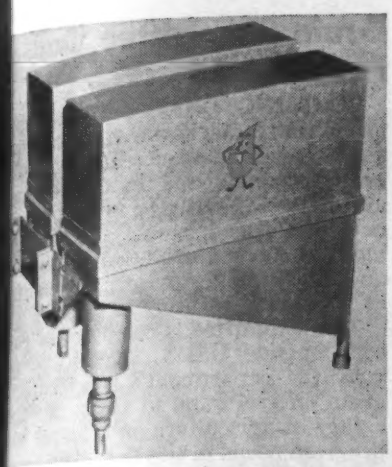


nsecticide, and Panogen liquid seed disinfectant with a single trip hrough the treating equipment. Another feature is that one reservoir ay be used to hold a chemical such s Panoram, Arasan, Spergon and aptan for slurry treatment of corn r beans while the other holds a quid fungicide such as Panogen for reatment of small grain. The operator can switch from one tank to he other almost instantly without osing time for cleaning and changeover." For further information check No. 5650 on the coupon and mail it o this publication.

No. 6544—Methallyl Chloride

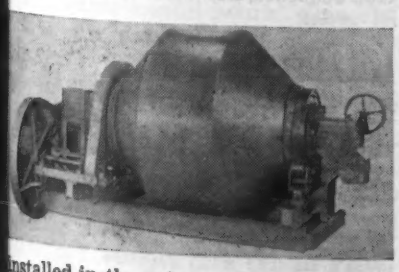
Methallyl chloride (3-chloro-2-ethyl-1-propene) is now commerially available as a new product of Food Machinery & Chemical Corp.'s ecently formed FMC Organic Chemicals Division. Methallyl chlorde will be found of interest for synhesis of monomers, insecticides, fungicides, fumigants and pharmaceuticals as well as for general use s an organic intermediate, according to company spokesmen. Literature on this subject is available without charge. Check No. 6544 on the coupon and mail it to Croplife.

No. 6542—Applicator Kit

Details of an applicator for water soluble fertilizers and other emulsifiable chemicals are announced by the Manco Chemical Co. The applicator is composed of a complete kit that includes a syphon-principle applicator, applicator hose and spray nozzle. Company officials state that the unit is "inexpensively made of polyethylene with a standard thread, attaches to the end of a garden hose and mixes tap water with concentrates in a gallon jug, bucket or other container." The nozzle has a wide opening to permit the free flow of solution regardless of varying water pressure. A sample kit will be forwarded on request. Check No. 6542 on the coupon and mail it to Croplife.

No. 6541—Rotary Mixer

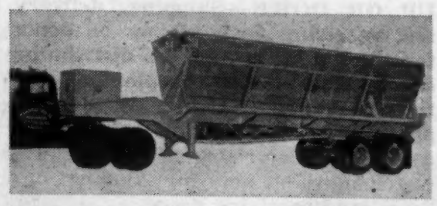
The Munson Mill Machinery Co. has announced new features of its rotary mixer used for the production of various fertilizers, insecticides and herbicides. Among the features claimed are: The mixer will blend powders and granules; it will not break up granular clays; spray pipes have been



installed in the mixer to spray liquids on the dust or granular materials; the mixers are equipped with an internal vent pipe to expel toxic fumes; they are dust tight; the mixer drum may be heated and will transfer heat rapidly to the materials to be blended; a stream of cold air for cooling can be introduced into the mixers; they can be used to coat granular fertilizers with insecticide dusts; they will blend various chemical compounds into a homogeneous, accurate mixture in a short period of time with no breakage in the particle size; the mixers are available from 20 to 250 cu. ft. mixing capacity. Pictured is style No. 7 Munson rotary batch mixer (gravity intake and gravity discharge). Secure full details by checking No. 6541 on the coupon and mailing it to Croplife.

No. 5648—Side-Dump Body

A side-dump transport, manufactured by the Baughman Manufacturing Co., unloads from individual buckets into truck-mounted bodies, and can be used for other big, heavy-



duty bulk transport assignments. The buckets can be raised or lowered by means of hydraulic rams, which are mounted on a monorail and moved into unloading position by means of a winch arrangement. The buckets are available with or without lids. The lids fold out during discharge to

(Continued on page 13)

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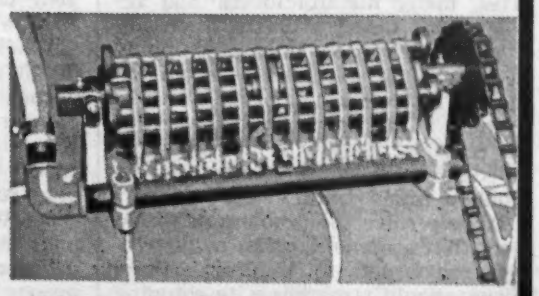

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Vincent Sauchelli

A complete up-to-date revision of this well known book, that reviews in simple, everyday language the processes of manufacture of superphosphates, of ammoniation, and the formulation and preparation of mixed fertilizers. Indispensable to fertilizer plant supervisors and operators, and a valuable aid to research men and teachers. New chapters added: on plant nutrition, mixed fertilizers, ammoniation, granulation, revised and brought up-to-date. 80 tables of practical information **$4.50**

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Samuel L. Tisdale and Werner L. Nelson

An advanced college text, for juniors and seniors, following backgrounding course in soils. Covers elements required in plant nutrition, their role in plant growth, and the soil reactions to these nutrients. Several chapters on manufacture, properties and agronomic value of fertilizers and fertilizer materials. Latter part covers soil fertility evaluation and use of fertilizers in sound management program. 430 pages, cloth bound **$7.75**

PLANT REGULATORS IN AGRICULTURE

Dr. Harold B. Tukey

Published September, 1954. A text book giving background material for county agents, farmers, citrus growers, nurserymen, gardeners; providing fundamentals and general principles; covers encouragement of roots by plant regulators, control of flowering and fruit setting, parthenocarpy, abscission, prevention of preharvest fruit drop, delaying foliation and blossoming, maturing and ripening, inhibition of sprouting and weed control. Brings together specialized knowledge of 17 authorities in the field, with two chapters written by Dr. Tukey, head of department of horticulture at Michigan State College. 269 pages **$5.50**

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An entirely new, one-of-a-kind book, it is designed to acquaint readers with nutritional deficiency symptoms or "hunger signs" of common yard and garden plants including lawn grasses, shrubs, flowers, garden vegetables, and cane and tree fruits. It stresses plant "feeding," or "what makes plants grow." Sixteen of the nation's leading horticultural authorities collaborated in its preparation. Cloth bound, 300 pages of text and illustrations including 37 pages in full color **$3.00**

PHOSPHATES IN AGRICULTURE

Dr. Vincent Sauchelli

A valuable book for the fertilizer salesman, agricultural teacher, farmer, fertilizer agent and county agent. Deals with rock phosphate versus superphosphate and colloidal phosphate, with the origin of phosphorus, the mining and processing of the phosphate rock, granulation of superphosphates, fixation of phosphates in the soil, losses of phosphorus and replenishments, phosphorus in nutrition, radioactive phosphorus, basic slag, fused and sintered phosphates and TVA research data on phosphates from field tests in 13 states. 176 pages and well illustrated **$2.75**

HUNGER SIGNS IN CROPS—Second Edition

A symposium—published jointly by the American Society of Agronomy and the National Fertilizer Association.

A comprehensive study of nutrient-deficiency symptoms in crops compiled by 19 of the leading authorities in the field. It is being widely used by college professors, research and extension specialists, industrial chemists and agronomists, county agents and teachers of vocational agriculture. Many farmers have found it of particular value in planning their fertilizer programs. Cloth bound, 390 pages, 242 illustrations, including 124 in full color **$4.50**

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Gilbeart H. Collings

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Recommendations for Cutting Shipping and Receiving Costs

By Robert Dyment

Freight rates are becoming increasingly higher. Many manufacturers and distributors use private freight carriers for shipping and receiving. Because of the high freight rates, many manufacturers and retailers are faced with the necessity of shortening their lines of shipping or setting up warehouses at an expensive figure because of these rates.

There is no reason to believe that the level of rates will not continue to climb, thereby increasing the problem many times over.

To help solve the problem, it would seem that a manufacturer, or distributor, in order to minimize these raises, should streamline its shipping and receiving department in order to help the carriers operate more efficiently, so that its costs do not spiral faster then the ultimate feed buyer can absorb.

The Genesee Region Truck Owners' Federation, Rochester, N.Y., an association of intercity common motor carriers, have come up with the following suggestions and recommendations. These suggestions and recommendations can ease the lot of the carrier and simplify a manufacturer's or a dealer's shipping and receiving operations, thus helping reduce the trucking costs, as well as shaving overhead dollars on operating costs or on products.

Manufacturers and dealers, with their own truck, or fleet of trucks or who hire outside carriers, will find these recommendations helpful in cutting costs and streamlining their freight, receiving, shipping and delivery departments.

1. **Preparation of the shipment:** (a) Proper packaging for easy handling. (b) Proper marking for easy distribution. (c) Have the bill of lading typewritten in advance. (d) Call the carrier so he can plan his pickups.

2. **Selection of a carrier:** (a) Know your carrier and his key personnel. (b) Select only recognized carriers. (c) Select the carrier with the most direct service. (d) Select the carrier with the lowest through rate commensurate with a good service. (e) Keep to a minimum the number of trucks in your receiving and shipping rooms.

3. **Shipping:** (a) Have sufficient help available. (b) Avoid congestion in your shipping platform. (c) Have proper handling facilities. (d) Make sure that you're open the hours that such a carrier works—8 a.m. to 5 p.m.

4. **Claim filing:** (a) Proper preparation of documents. (b) Know the statute of limitations. (c) Keep all packing available for inspectors.

5. **Tracing:** (a) Make sure the carrier you are tracing is the one that is handling the shipment. (b) Have the name of shipper, origin, destination, date of pickup, available when tracing. (c) Make sure you have original bill of lading on hand. (d) Do not make unnecessary demands on time of tracing. (e) Give the carrier a reasonable time to transport the merchandise.

6. **Routing:** (a) Be sure and route by a carrier you know services the origin. (b) If you route best way or cheapest way, make sure your supplier notifies you how and when he shipped it.

7. **Receiving and inspecting:** (a) Instruct receiving personnel to check condition of outside container before signing for shipment. (b) If outside container shows indications of inward damage inspect it at once. (c) If obvious outside damage or possible loss is suspected count contents and make notation on freight bill. (d) Don't ask the carrier for ambiguous notations on your freight bill. (e) Don't refuse a shipment until you are sure you cannot use it. It is very costly for the carrier and customer to handle refused shipments.

8. **Payment on freight bill:** (a) Try to arrange credit rating with your carriers. Much time is wasted in cash payment. (b) If you pay for your shipments by cash it is suggested you open a small check account for that purpose so that larger amounts can be paid at the time of delivery. (c) Pay your charge freight bills within the prescribed Interstate Commerce Commission limitations of seven days. This saves the carrier the additional cost of follow-up. (d) Don't arbitrarily make changes in amounts on freight bills before remitting without contacting the carrier.

9. **Encourage your purchasing agent and others to see transportation representatives.**

10. **Encourage your shipping and receiving clerks to study transportation subjects in local colleges.**

11. **Take an active part in rate cases:** (a) Accomplish this through your local transportation organizations, chamber of commerce and others.

12. **Avoid congestion at your place of business:** (a) This is often caused by personnel's attempt to favor too many carriers, each one not having a large enough stake in your business to give the personal service you deserve. (b) Try and utilize carriers that have the largest coverage with the best service.

13. **Special services:** (a) Don't ask your carrier for special services which increase costs. The freight rate which you are charged covers a free pickup by one man, transportation over the road and a free delivery by one man. Additional handling or special services are chargeable beyond this rate to the shipper or receiver.

Manufacturers and retailers, in planning for the future and streamling for the present, shouldn't forget to streamline their transportation operations. Transportation costs are an integral part of the total cost of products. Changes can often effect a one or two penny saving on all items sold or manufactured.

The American Trucking Association has what it calls the "Shipper's Code," and can help speed the goods being received or shipped. The "Shipper's Code" is as follows:

"We recognize that our carriers are important to the success of our company. Therefore, we will:

1. Give our carriers a delivery schedule so our receiving docks will be clear when they arrive.
2. Set up a shipping and pickup schedule so that our carriers will not have to wait.
3. Schedule some carriers in for early pickup, especially large shipments.
4. Advise our carriers well in advance of our volume of shipments and any special equipment we need.
5. Pack our shipment in sizes for easy handling.
6. Mark our packages clearly so checking is simple.
7. Assemble our shipments for each carrier in one area to speed loading.
8. Provide our carrier with clear complete copies of our bills of lading.
9. Have our bills of lading ready when the driver calls.
10. Provide good handling equipment and dock plates.
11. Load shipments in a special sequence if our carrier requests.
12. Give the driver a hand when he needs it."

UP OR DOWN—Shipping, delivery and receiving costs go up or down for the manufacturer and distributor commensurate with the planning—or lack of planning—that goes into this phase of the operation. Because these costs have been rising steadily a close watch must be kept on shipping, delivery and receiving costs.

Washington Chemical Sales Show Increase

OLYMPIA, WASHINGTON—Sales of chemicals, both agricultural and industrial, jumped about 15% for the months of July and August, 1956, as compared to the same period the year previous, according to figures just released by the Washington State Tax Commission, as revealed by sales tax collections.

In the Bimonthly Statistical Report of the Revenue from Excise Taxes for the State of Washington, figures reveal that taxes collected on the wholesaling of chemicals, agricultural and industrial and drugs for July-August 1955 were $52,000 as compared to $59,000 for the same period in 1956. Taxes represent 4% of the total retail sales.

Grain Committee Calls For More Research

WASHINGTON — Continued emphasis on basic research to improve quality control of cereal grains and grain products and to develop new and extended outlets for those products was urged by the U.S. Department of Agriculture's Grain Research and Marketing Advisory Committee at its annual meeting in Washington.

The committee is composed of persons outside USDA, selected to review the department's research program on grain and to advise the secretary of agriculture on research and program needs in this field. The group called for an intensified research program on the production, utilization and marketing of grain.

In the area of production research the committee indicated top-priority needs for the following: Expand basic and applied research to develop improved varieties of grain crops. Widen work on weed control in small grains, corn, and sorghum. Increase studies on soil and water conservation and irrigation practices.

The committee also pointed out the need for a central laboratory for studying the physiology of field crops. Studies would include the effect of drouth, winter killing, high temperature, and other factors on the growth of field crop varieties and on diseases that attack them.

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Adams & Doyle fertilizer and limestone spreaders are first choice with custom spreaders, fertilizer dealers and large farm operators. Capable of spreading from 100 lb. up to 4 tons per acre. Precision built gear cases. Hood unfolds to 20 feet wide with open ends for 10 to 15 feet extra coverage.

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field crop diseases . . .
how they occur
how to prevent them
how to control them

This practical guide shows you how to prevent, diagnose, build resistance to, and treat diseases of field crops. It gives you scientific ways to keep crop ailments under control . . . helps you obtain high-quality yields and cut losses from crop fluctuations. Every major crop plant is covered—cereals, legumes, grasses, and fiber plants.

Just Published

DISEASES OF FIELD CROPS

New 2nd Edition

By JAMES G. DICKSON
University of Wisconsin
517 pages, 242 illustrations, $8.50

DISEASES of each crop are arranged according to whether they are non-parasitic, virus, bacterial, or fungal. Symptoms and tested control practices are described in a way that helps you readily recognize each disease and take immediate steps to check its progress. In addition, the book gives you information on advances in disease investigations, such as those covering nematodes, newer viruses, and genetic factors that condition resistance to disease. Also shows the influence of moisture, temperature, crop sequence, and other factors affecting its cycle.

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ertilizer Boosts adino Yields in hode Island Tests

By R. C. WAKEFIELD*
gronomist, Rhode Island Agricultural Experiment Station

t is important to supply plant nuents in sufficient amounts to keep ino clover stands healthy and proctive. Results of a recently comted 5-year research project at the hode Island Agricultural Experient Station show that application phosphate at a rate of 60 lb. per re and potash at 120 lb. per acre e minimum amounts needed by the op.

In order to meet these needs, applition of about 750 lb. per acre of 10-20, 500 pounds 0-15-30 or comrable amounts of similar commerl fertilizers should be used each ar.

In renovating old, worn out pasres or clearing new land for seeding ladino-grass pasture mixtures, subantial applications of ground limeone, fertilizer and manure are usual needed to provide for establishent and early maintenance. Followg this, annual, and preferably semiinual, applications of fertilizer are ecommended.

In order to determine the amount f phosphate and potash fertilizer eeded to establish and maintain a roductive stand of ladino clover unr Rhode Island conditions, an exeriment was begun at the station in 951. The area selected for the reearch was a Merrimac fine sandy oam which a few years before had een reclaimed from brushland. A oil test showed that the pH was low pH 4.6) and the levels of both availble phosphorus and potassium were ery low.

In preparing the seedbed, 3 tons of round limestone per acre were aplied, 2 tons of which were plowed own. This raised the soil pH to approximately 6.2. Various amounts of hosphate and potash were applied to ifferent plots which were marked off n the area. A mixture of ladino lover at 2 lb. per acre and smooth romegrass at 10 lb. per acre was eeded.

Yields of forage were determined over a 4-year period. Forage yields were increased from 0.98 ton per acre without phosphate to 2.63 tons per acre with 60 lb. of phosphate. A large initial application of 120 lb. of phosphate at seeding time only was not as satisfactory as small yearly applications which gave higher yields.

Potash (K_2O) was applied to plots n split applications up to 240-lb. per cre, one-half the amount after the irst cutting and one-half in the fall f each year. Increasing the amount f potash resulted in increased yields. However, it was felt that a little more than 120 lb. of potash would produce comparable yields at a conderable saving.

Analysis by station agricultural hemists of the forage from the plots n question tended to support this conclusion.

This experimental work suggests hat approximately 150 lb. of potash per acre per year is an effective and economical rate of application on ladino clover when made in split applications.

A further increase in yield was gained by adding borax to the topressing each fall. An equivalent of 2.5 lb. of boron per acre (about 23 lb. borax) resulted in a highly significant ncrease in yield. The response was articularly marked during the first wo years of the experiment.

* Adapted from an article in the winter issue of Rhode Island Agriculture, published by the Rhode Island Agricultural Experiment Station and Agricultural Extension Service.

WHAT'S NEW

(Continued from page 11)

form a discharge chute. The company also manufactures a self-supporting hopper-type bottom dump utilizing gravity discharge and a hopper-type auger unloader body. Sliding gates in the body bottom control the discharge flow material in the gravity discharge system. In the hopper-type auger unloader body, a divided auger in the bottom carries the material to the center-of-body vertical discharge auger. Secure more complete details by checking No. 5648 on the coupon and mailing it to this publication.

No. 6540—Plant Growth Stimulant

The availability of the new plant growth stimulant, gibberellic acid, is announced by S. B. Penick & Co. Company officials state that initial work indicates that on certain flowers and ornamentals, gibberellic acid will stimulate stem length and lateral growth, accelerate stem growth on cuttings, increase profusion of blooms, stimulate earlier blooming, promote flowering of plants tending to remain in the vegetative stage and induce flowering of biennials in the first year. Gibberellic acid was isolated by Japanese scientists working on the prevention of a rice disease. Further work by U.S. agricultural scientists indicated that "in only three to four weeks plants treated with the chemical grew three times as tall as comparable untreated plants," the company announcement stated. For more information check No. 6540 on the coupon and mail to Croplife.

No. 6539—Suction Strainer

The Spraying Systems Co. has announced a new, low cost suction strainer for use in spray rig tanks. The strainer is made with either aluminum with a Monel screen or of stainless steel with a stainless steel screen. Practically all farm chemicals may now be handled, including the balanced mixed fertilizers containing phosphoric acid, it is claimed. Fifty and 100 mesh sizes are offered. A hose shank connection is supplied to fit either ⅝ in. OD or ¾ in. OD rubber hose. The hose is slipped over the strainer hose shank and held with a hose clamp. No special fittings are needed. The strainer is easily disassembled for cleaning by turning a knurled screw in the strainer bottom, which releases all parts. It is claimed that the new No. 7130 suction strainer will fit through the opening of any standard container and permits withdrawal of solution to within 1 in. of the bottom. Secure complete details by checking No. 6539 on the coupon and mailing it to Croplife.

AGRONOMY DAY

DAVIS, CAL.—The University of California's spring agronomy field day will be held here May 17.

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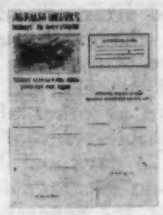

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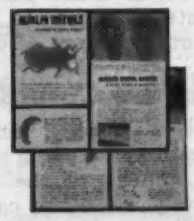

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BUG OF THE WEEK

Mr. Dealer--Cut out this page for your bulletin board

European Corn Borer

How to Identify

The European corn borer in its larval stage, is a pinkish worm ranging in size from ¾ to an inch in length. Small brown spots are on its back. Distribution of the borer now covers practically all the corn-growing area of the U.S. It has spread from New England since its discovery in 1917.

Habits of the Corn Borer

Two strains of the borer exist in the U.S.: one which passes through one life cycle a year and the other which has two or more complete cycles, depending upon the environment. The latter exists in nearly all the infested areas. Eggs laid in masses of 15 or 20 or more on the underside of leaves, hatch in from 4 to 9 days. The newborn borers crawl to protected places on the leaves and begin to feed on the immature leaves and tassels, finally boring into the stalks and ears. They mature in about a month and after providing an exit for the adult moth, change to pupae inside the tunnels. In 10 to 14 days, the adult moths emerge from the pupal cells and lay about 400 eggs each on corn or other plants that they may find in a suitable stage of growth. Moths live from 10 to 24 days and during this time are active fliers in evenings or nights. Thus, they may migrate for several miles. The insects pass the winter in the borer stage inside stems of corn or other plants. They change to moths late in spring or early in summer to begin another season of destruction.

Damage Done by Corn Borer

Because it is a boring insect, greatest injury results from its tunneling within the stalk, ears, tassel, midrib of the leaf, brace roots and practically all other parts of the plant except the fibrous roots. Character of injury depends upon the stage of development of the corn plant when the infestation takes place. If the attacked plant is just developing a tassel, some of the small borers enter the buds and feed within; others eat the surface of the tassel buds. If the infestation comes at the time of pollen shedding, accumulations of pollen provide satisfactory feed for the insects. Later, they tunnel inside the tassel stem and its branches often causing them to break over. Such broken tassels, with saw-dust-like borings at the breaks, are signs of infestation. Likewise, small holes in the stalks, with bunches of dusty borings at or below them, indicate the area where the worm is at work. Borers may continue to tunnel upward or downward, weakening the plant so much that it frequently breaks and falls over. Injury to stalks and ears may be increased even further by the entrance of disease organisms through the lesions made by borers. Despite efforts at control this pest does millions of dollars in damage each year.

Control Methods

Since the borer's life is spent largely within the plant, many of the recommended practices for control are of cultural nature. However, insecticidal materials have been found effective. DDT either in oil or applied in dust form has been indicated for sweet corn or seed corn. As soon as the borer eggs begin to hatch, applications of DDT dust may begin and continue at 5 to 7 day intervals three or four times. Either ground or air equipment may be used. Dusting with 2% parathion has also been mentioned favorably, as have rotenone, nicotine, derris and Ryania. (No DDT on corn to be used as animal forage.) Cultural means include the shredding of stalks, plowing under clean in the fall or early spring before moths emerge, and if all else fails, burning infested stalks. Check with local authorities as to amounts of pesticide to use in order to avoid excessive residues.

Photo of European corn borer furnished Croplife through courtesy of Illinois Natural History Survey.

Previous "Bug of the Week" features have been reprinted in attractive 24-page booklet, priced at 25¢ single copies; reduced rates in quantities. Write Croplife Reprint Dept., Box 67, Minneapolis 1, Minn.

RINGING THE cash register

Merchandising Hints for The Retailer

Well-trained Personnel

A merchant cannot afford to neglect training his sales personnel well. Investment in a clerical worker is about $3,000 or more for salary alone. Recruiting-training investment will run about $500 a year at the lower wage level. Turnover of personnel means a loss in training investment which should be pro-rated in terms of personnel overhead. In addition, personnel accounts for further costs in equipment tieup, capital investment depreciation (maintaining the job for each employee which run up to $450 per year) and welfare plans and vacations.

Farm Calls Necessary

Farm calls are "absolutely necessary." So says Z. V. Stephenson, partner with A. W. Johnson in a Benson, N.C., farm store. The firm's representatives have called on customers at their farms for years, taking their orders and inviting them into the store when at Benson. Mr. Johnson says the firm does newspaper and radio advertising weekly. This is helpful but cannot take the place of making personal contacts. Price cutting is the most serious merchandising problem in the area, the partners say. One adverse effect of price cutting practices is that the farmer has a strong tendency to hold off buying until he can get the best price possible.

Give Them A Reason

If you handle legume and grass seeds and find it necessary to charge higher prices this spring, you can cushion such news by stating or advertising to the customer that drouth and lower acreages resulted in short forage seed harvests in 1956, resulting in higher prices being paid to the producers. Often buyers will not question a price increase if they know the reason for it.

Beware Of "Free"

Has the word "free" lost some of its magic in the public mind? It might have, judging from a survey taken by a publishing house. In the survey one book was advertised as being "free" if the prospect bought two others for $2. In another test, in which the same three books were advertised for $2, 40% more orders resulted. The test indicates that people are often leery of "free" offers because they may have strong strings attached which lead to embarrassment or obligations. It is wise to use the word "free" with care in advertising.

Colors You Remember

If you are thinking of doing spring painting it may be of interest to know that some colors are remembered better than others. In a survey conducted by Dr. George H. Gallup, the well known poll authority, it was demonstrated that violet is remembered longest by men and blues are best remembered by women. The following colors are arranged in order remembered by men and the percentages remembering them: Violet 80%, light blue 67%, purple 50%, yellow 40%, dark blue 33%, olive green 29%, light green 29%, orange 22%, red 20%, dark green 10%. For women the colors were remembered in this order: Dark blue 60%, light blue 57%, violet 41%, red 38%, orange 33%, olive green 29%, yellow 24%, purple 21%, light green 20% and dark green 12%.

"Honest" Price Cuts

Do your customers believe your price cuts? The better business bureau of Pittsburgh made a study of printed advertisements in an effort to find the answer to the question. Here is what the bureau officials found out: Prices cut 20%—84% of the readers trusted the claim; prices cut 30%—55% of the readers trusted the claim; prices cut 40%—21% of the readers trusted the claim; prices cut 50%—11% of the readers trusted the claim. It is obvious from this survey that advertising must be believable to convince the buyer that he is getting good quality merchandise at a reduced price. In addition, ads that are not believable tear down prestige and ruin a reputation for sincere and honest merchandising where it existed previously.

Display Windows

A significant trend in display windows was discovered in a survey of modern drug stores. Eighty-eight per cent of all new drug stores opened in 1955 were built with full-view windows through which the whole inside of the store is visible from the street. There could be a significant meaning in this trend for farm stores. Good housekeeping and attractive merchandise arrangements will serve a double purpose because they will be noticed by customers who are in the store and prospects who may be walking by.

High Per Unit Production Builds Top Farm Income, New York Study Shows

GENEVA, N.Y.—A study of changes in commercial farming made by the New York Experiment Station here shows that highest farm incomes are made when good yields as well as large size and high labor efficiency come into play to give a large volume of production per farm and per man.

The 15% of the farms in the study with the highest product units per man made $6,765, and the 15% with the highest product units per farm made $7,563. Farms which qualified on both counts made $9,393, compared with an all-farm average of $3,088.

OKLAHOMA APPOINTMENT

OKLAHOMA CITY—C. F. Stiles, formerly with the Oklahoma A&M Extension Service as entomologist, has been named inspector for the Tulsa district for the Entomology and Plant Industry Division of the Oklahoma Board of Agriculture, it has been announced by Clyde Bower, division head.

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FARM SERVICE DATA

Extension Station Reports

Winners of both the 1-acre and 5-acre Pennsylvania Corn Club championships last year used hybrids developed at the Agricultural Experiment Station, University Park, Pa. The winning hybrids were Pa 444, a mid-season, and Pa 807, a long season corn.

The Corn Club is sponsored by the Pennsylvania Crop Improvement Assn. in cooperation with the Agricultural Extension Service and the teachers of vocational agriculture of the state. Several hundred boys compete annually. Hybrids grown, chosen by the contestants, include closed-formula, commercial kinds along with others bred at agricultural experiment stations.

Carl Gadsby, Kennerdell, won the 1-acre contest in 1956 by growing 170 bu. of shelled corn on a measured acre of Pa 444. Happel brothers, Robert W. and Charles Jr., Chambersburg, took top honors in the 5-acre contest by growing an average of 160 bu. per acre of Pa 807.

High fertility and big plant populations help win Corn Club championships. Carl Gadsby grew his prize-winning corn crop on alfalfa sod. He applied 500 lb. per acre of 5-10-10 fertilizer in the row at planting and 560 lb. later as a side-dressing. His plant population was 26,600 per acre, or an average of 1 plant about every 6 inches in rows spaced 36 inches apart.

Happel brothers grew their championship yield on a muck-and-marl deposit soil for the second year in corn in a hay-hay-corn-corn-small grain-small grain rotation. They applied 300 lb. per acre of ammonium nitrate through the planter and side-dressed the rows later with 200 lb. of ammonium nitrate. They averaged 19,500 plants per acre, or 1 plant every 8 inches in 36-inch rows.

★

Late blight was found to only a very limited extent in Aroostook County, Maine during 1956, according to Reiner Bonde, Maine Agricultural Experiment Station, and R. A. Hyre, U.S. Department of Agriculture. The average amount of foliage blight was only 3% in southern and central Aroostook and less than 1% in northern Aroostook. In many fields no late blight was found.

According to the two researchers, the reasons for the small amount of late blight probably were adequate spraying, weather unfavorable for blight, the absence of early or universal infection of the cull piles and the use of blight resistant varieties.

The rainfall-temperature method of forecasting late blight, which was developed last year, was again accurate when modified to allow for the unusually cool season. The temperature is considered favorable for blight if the 7-day average is 77° F. or less, and if the minimum temperature in any day does not fall below 45° F. Rainfall is considered favorable when the 10-day total equals 1.05 inches or more. Late blight is forecast after 10 consecutive days when both rainfall and temperature are favorable. The infection is expected one or two weeks after it is forecast.

★

The microclimate surrounding dense strawberry foliage seems far more important in spread of grey mold than the weather conditions above the plants.

Patrick M. Miller and Paul E. Waggoner of the Connecticut Agricultural Experiment Station studied the spore dispersal behavior of the Botrytis organism which causes this disease. The work was done in a heavily infected field of one-half acre. An hourly record for 10 days of grey mold spores found in the air 18 inches above ground showed that the spore count was highest when humidity was high, regardless of rain or time of day.

Only occasional spores were caught under other weather conditions. Even the highest count of 112 spores in a cubic meter of air was far below that common with certain other plant disease fungi under comparable weather conditions.

Such information is important because it points out to strawberry growers that grey mold epidemics start in their own field and not in their neighbor's. Spraying before blossom time and keeping the foliage open so that fruit dries quickly will keep down the disease early in the spring and reduce spread to the fruit later on in the season.

★

Vermont farmers are retiring their poor crop and pasture land to forestry use and improving other crop and pasture land, stated L. J. Peet, state conservationist for the U.S. Soil Conservation Service.

A summary of conservation accomplishments for the past year showed that over 4,300,000 acres of poor crop and pasture land had been converted to forestry use by farmers cooperating with Vermont's 13 soil conservation districts. At the same time, over 7,552 acres of other potentially productive crop and pasture land were improved by removing boulders and hummocks and fixing drainage.

SCS data indicate that nearly a half million acres of poor crop and pasture land should go to trees. The acreage of potentially productive crop and pasture land that can be improved economically although limited is very important to many farmers short of roughage required for an economic-sized dairy farm, Mr. Peet said.

These adjustments in land use, he pointed out, were made by farmers as a result of information furnished them by soil conservationists and others, the help of soil conservation districts, and financial assistance received under the agricultural conservation program. The conservation reserve program of the soil bank is another tool now available to farmers to help them convert their poor crop land to trees.

In making land-use shifts called for by conservation plans, Vermont farmers in soil conservation districts planted trees on 1,885 acres last year. Tree planting in districts now has reached a total of nearly 12 thousand acres since the district program started in the early 1940's. Pointing to another major accomplishment revealed by recently compiled figures, Mr. Peet said that 1956 was a high year for farm ponds too. Last year 326 such ponds were built, bringing the total to date to over 2,500.

★

Virus diseases of cabbage are not usually viewed with alarm, but they are a possible threat to cabbage production, says Dr. John J. Natti, Cornell and New York State University plant disease specialist at the Experiment Station at Geneva.

"In commercial cabbage plantings, virus diseases do not appear to reduce cabbage yields even though a high percentage of the plants may be infected at harvest time," says Dr. Natti. "One season we found 111 of 141 cabbage plants picked at random from a commercial field at harvest time infected with one or two viruses."

Investigations carried on at the station seem to explain freedom from serious losses in yields due to virus infections in commercial plantings to the fact that the infection occurs late in the season.

"However, virus diseases are a potential threat to cabbage production," continues Dr. Natti. "Where cabbage plants were experimentally inoculated in the seedbed or early in the season in the field with cauliflower mosaic and turnip mosaic viruses, the two most common viruses infecting cabbage, yields were from 50 to 75% less than from plants which became infected late in the season or which remained virus-free."

An early season infection of cabbage by these viruses can result in almost complete crop failure, he states.

"The absence or low incidence of virus infection early in the season in commercial cabbage plantings suggests that, under natural conditions, these viruses must be harbored over winter in biennial or perennial host plants which apparently are not too numerous or are not attractive to the insects which transmit the viruses to cabbage," says the station scientist.

152 Bu. Yield Wins Hybrid Corn Contest In West Virginia

MORGANTOWN, W.VA. — Winner of the 1956 West Virginia Hybrid Corn Yield Contest is Howard Fitzwater, Clay, Clay County, it was announced here by R. J. Friant, extension agronomist at West Virginia University. Runner-up in the 1955 competition, Mr. Fitzwater this year produced 152.56 bu. per acre of shelled corn containing 15% moisture, to win over Harley Michael, Route 3, Berkeley Springs, Morgan County, who produced 128.69 bu.

In preparing for his corn crop Mr. Fitzwater took soil samples from the field, which was in an old timothy sod, and applied 3 tons of ground limestone per acre in accordance with the lime requirement test. This was applied in October, 1955. Before plowing in April, he applied 7 tons of barnyard manure and 400 lb. of 10-10-10 fertilizer per acre. The land was then disked 3 times and was run over with a spike-tooth harrow.

Mr. Fitzwater planted "certified" W.Va. hybrid seed corn. The corn was planted in rows 38 inches apart, with 10 inches between plants in the row. The planting rate would result in a plant population of 16,563 plants per acre if a perfect stand were obtained.

An additional application of 200 lb. of 10-10-10 fertilizer per acre was made with a grain drill at planting time. When the corn was 4 feet tall, Mr. Fitzwater sidedressed it with 100 lb. of nitrate of soda per acre. The corn was cultivated twice.

This annual competition is designed to promote interest in higher corn yields in West Virginia; to increase the use of West Virginia "grown" and "certified" hybrid seed corn; to make the most efficient use of fertilizers and liming materials applied to corn land, and to acquire knowledge concerning the best methods for obtaining the highest and most profitable yields of corn.

Cooperators that sponsor the contest are the Agricultural Extension Service, West Virginia University, cooperating with the U.S. Department of Agriculture; the West Virginia Associated Crop Growers; the Nitrogen Division of the Allied Chemical and Dye Corp., and the Agricultural Committee of the West Virginia Division of the American Bankers Assn.

By RAYMOND ROSSON

County Agent, Washington County, Tenn.

The proof of the pudding is in the eating of it, so I'll just have to tell you something about our county Washington.

From the 1955 Census	Av. County in Tennessee	Washington County
Number acres of farm land	183,696	162,886
Number of farms	2,136	3,541
Acres in average farm	86	46
Value land and buildings per farm	$7,505	$10,460
Value land per acre (average)	$91	$247
Acres of alfalfa	1,224	4,768
Acres in corn	19,357	11,022
Number beef and dairy cattle	18,382	31,507
Total poultry	84,097	202,127
Homes electrified	1,934	3,483
Homes with TV sets	528	1,138
Homes with running water	765	1,993
Home freezers	376	1,023
Farm automobiles	1,250	2,492
Farm trucks	768	1,250
Farm tractors	948	1,673
Milking machines	82	203

These figures were compiled from the 1954 census. Of course many more have TV sets now, and we've sown some 2,300 more acres to alfalfa since 1954.

This county agent is pretty proud of Washington County farmers on their little 46 acre farms. Don't you think they are making a good showing? Reason . . . They put a lot of acres in a "soil bank" during the past 20 years; and they have only about 15,000 acres in row-crops in the whole county. And they use a good bit of fertilizer.

Illinois Tests Made to Find Protein as Well as Nitrogen Content in Soil

URBANA, ILL.—University of Illinois soil scientists are studying the nitrogen and protein content of soils with equipment normally used to study the content of blood serum.

Frank Stevenson, who is doing this research, says that very little is known about the chemistry of nitrogen compounds in the soil. Nitrogen differs from other soil nutrients because it occurs almost exclusively in the organic form.

One reason a test to determine the amount of nitrogen in the soil has been so hard to perfect is that the amount of nitrogen released from organic matter varies with soil temperature and moisture, Mr. Stevenson points out.

The famous Morrow plots at the University of Illinois have also been used in part of this soil nitrogen and protein study. The proteins in the soils from the untreated continuous corn plots were found to be low in the kinds of amino acids that would be ready sources of nitrogen. The proteins in the soil of the rotation plots that had received soil treatments were high in the amino acids that would supply nitrogen.

The research has thus shown not only that intensive farming depletes the soil of proteins, but also that the protein material remaining is of low quality.

This time-consuming basic research is a necessary part of most successful advancements in soil science, Mr. Stevenson explains. He points out that many years of basic research were required on the chemistry of potassium before a successful test for this element was developed.

SOIL BANK

(Continued from page 1)

4,000, Texas 716,000 and Virginia 000.

Corn acreage sign-ups as reported y USDA as of March 1 are esti- ated as follows:

Alabama 52,000, Delaware 13,000, eorgia 34,000, Illinois 196,000, Indi- na 174,000, Iowa 335,000, Kansas 26,000, Kentucky 135,000, Maryland 6,000, Michigan 111,000, Minnesota 17,000, Missouri 370,000, Nebraska 35,000, North Carolina 76,000, Ohio 54,000, South Dakota 110,000, Ten- essee 73,000 and Wisconsin 82,000.

The 1957 sign-up for all wheat for he soil bank is currently estimated y USDA as follows with the report bviously incomplete for spring heat contributions:

Arkansas 2,157 acres, California 18,000, Colorado 1,314,000, Georgia 7,000, Idaho 136,000, Illinois 32,000, ndiana 68,000, Kansas 4,260,000, Michigan 134,000, Minnesota 101,000, Missouri 122,000, Montana 314,000, Nebraska 525,000, New Mexico 180,- 00, North Dakota 1,017,000, Ohio 76,000, Oklahoma 1,088,000, Oregon 02,000, South Dakota 542,000, Texas ,115,000 and Washington 203,000.

For the rice crop only 113,397 cres have been placed in the acreage eserve program of the soil bank for 957.

For tobacco a total of 16.9 million s now under soil bank contracts for he 1957 crop.

The foregoing estimates of prob- ble contributions to the soil bank his year may provide guides for ales executives and dealers in ap- raising their sales possibilities for his year's crops for both plant foods nd pesticidal chemicals.

Previously Croplife (page 1, March) reported broad differences of opin- on in the pesticidal chemical industry ver the effects of the soil bank on he sales of chemicals this year. One pinion was that there would be little ver-all change in sales volume and onnage. This was based on the con- ention that for many crops the land ut into the soil bank would repre- ent fringe land or low productive and where normally farmers spent ittle money on either plant foods or rotective chemicals.

The above state figures may pro- ide a bench mark for this judgment.

In the case of corn it appears that he contributions to the soil bank his year in the acreage reserve pro- ram will be fringe or marginal land r land which has been a drouth area. or winter wheat much the same onclusion can be reached.

West Virginia Fertilizer Sales Dip 6% in 1956

CHARLESTON, W.VA.—Farmers nd other users in West Virginia urchased 82,100 tons of commercial ertilizers and fertilizer materials uring 1956, according to J. T. John- on, commissioner of agriculture. Compared to 1955, sales were down % in the first six months of the ear and 13% during the last half veraging a total decrease of 6% for he year.

Mixed fertilizer sales in 1956 total- d 72,706 tons, down from 77,778 tons n 1955. Sales of unmixed nitrogen ipped from 3,104 tons in 1955 to ,078 in 1956; sales of superphosphate eclined from 6,059 tons to 5,821, and otash sales decreased from 125 tons o 39 tons.

Based on average prices paid for ertilizer by West Virginia farmers uring 1956, the fertilizer sold cost urchasers about 4.3 million dollars compared to 4.6 million in 1955. ixed fertilizer cost $3,835,000, un- ixed nitrogen $234,000, superphos- hate $213,000 and other fertilizers ost $16,000.

Study of Herbicides To Control Seed Crop Weeds Under Way

FRESNO, CAL.—The use of selective herbicides to control weeds and volunteer seedlings in certified legume and grass seed crops is under investigation in the San Joaquin Valley. Armen Sarquis and William Hopkins, Fresno County farm advisers, have established a number of plots in various alfalfa and grass seed fields to study the possibilities of this method. Objectives of the trials are to reduce the present cost and inconvenience of repeated spring cultivations and summer hand weeding.

At the present time seed growers must spend anywhere from $20 to $50 an acre yearly to assure meeting certification requirements and producing a weed free seed crop, the advisers reported. This cost is a serious cut in net profits. Any method which will reduce this expense will help growers face fluctuations in the seed market from year to year and also the possibility of gradual reduction of returns as supply and demand become stabilized in the future.

The extent of the weed problem in Fresno County is clear, Mr. Sarquis said. During each of the past two years approximately 1,000,000 lb. of seed have been rejected for certification on the basis of seed laboratory tests showing the presence of various weed seeds.

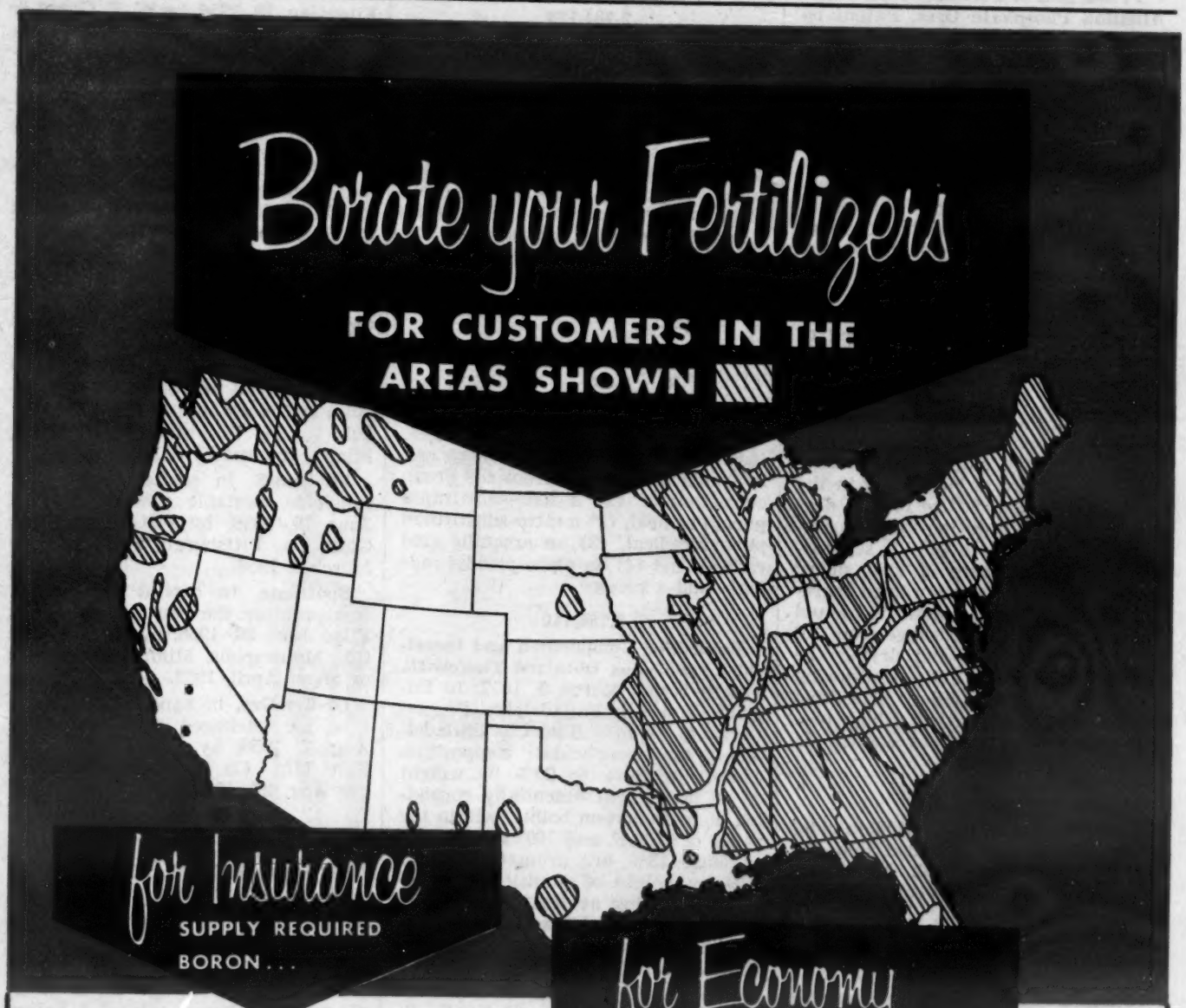
All this seed must be recleaned at expense to the grower. Recleaning is not only costly but means loss of good seed in the recleaning process. He said it is estimated these costs and losses plus the cost of cultivation and hand weeding may reach as much as 1.5 million dollars in Fresno County seed crop.

Successful use of selective herbicides could reduce this expense materially. Trials being conducted will help evaluate the effectiveness of different materials for this use and also determine what changes in cultural practices will be necessary.

Mr. Hopkins reported the materials being used are monuron, diuron, nebron, simazin, EPTC and urox at low rates. Although these trial applications are presently being made by ground rig and by hand, it may be feasible to make commercial applications by air.

Indications so far are that they cannot be used on first year stands and must be used the last year with caution due to residue problems, Mr. Hopkins said. Fall applications are directed at control of volunteer alfalfa seedlings while spring applications are directed at spring and summer weeds.

Anyone desiring information on these trials may contact either Mr. Hopkins or Mr. Sarquis at the farm and home advisers office, 1720 S. Maple Ave., Fresno, Cal. It is planned to conduct a tour of these plots during April or May.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Industry Patents and Trademarks

2,783,139

Process of Producing Ammoniated Superphosphates. Patent issued Feb. 26, 1957, to Richard C. Datin, Petersburg, Va., assignor to Allied Chemical & Dye Corp., New York. The process of producing ammoniated superphosphate which comprises acidulating phosphate rock containing fluorine in the presence of added sodium ion and thereafter ammoniating the superphosphate produced by the acidulation employing at least 1.6 mols of ammonia per mol of P_2O_5 over and above the amount of ammonia required to neutralize that portion of the acid employed during the acidulation which is in excess over that required to solubilize the P_2O_5 in the phosphate rock.

2,783,140

Production of Fertilizer from High-Alumina Phosphate Ores. Patent issued Feb. 26, 1957, to Travis P. Hignett, Sheffield, and Milton R. Siegel, Robert S. Meline and Thurman M. Kelso, Florence, Ala., assignors to Tennessee Valley Authority. A process for the production of fertilizer which comprises completely calcining a high-alumina phosphate ore at temperatures in the range from about 800° to 1200° C.; crushing the calcined ore at least fine enough to pass through a screen having ½-inch openings; extracting the crushed ore with an aqueous solution of a material selected from the group consisting of nitric acid, sulfuric acid, and mixtures thereof, in quantity sufficient to supply from 2.0 to 10.0 mols of acid per mole of P_2O_5 and sufficient to give 5 percent to 75 percent solid matter in the resulting slurry; maintaining the temperature of the slurry in the range from about 80° to 100° C. during extraction; reducing the temperature to about 50° to 70° C.; separating the liquid phase of said slurry from solid materials contained therein; ammoniating the separated liquid phase to a pH in the range from 3.0 to 9.0; granulating and drying the resulting material; and withdrawing a homogeneous granular, noncaking fertilizer product having a high proportion of its phosphate content in citrate-soluble form.

2,783,177

Warfarin Sodium Rodenticidal Composition. Patent issued Feb. 26, 1957, to Karl Paul Link, Middleton, Wis., assignor to Wisconsin Alumni Research Foundation, Madison. A rodenticide product for use in the preparation of water baits consisting of sand coated with sufficient 3-(a-acetonylbenzyl)- 4 -hydroxycoumarin sodium to provide the product with about 0.1—10% by weight of 3-(a-acetonylbenzyl)- 4 -hydroxycoumarin, said coating being formed by applying an aqueous solution of 3-(a-acetonylbenzyl- 4 -hydroxycoumarin sodium free from free alkali to dry, clean, washed sand and drying the same thereon, said coating being characterized by being firmly bound to the sand and when dry and being readily released in solution when contacted with water.

2,784,071

Selective Herbicide. Patent issued March 5, 1957, to John A. Garman, Baltimore, Md., and Donald K. George, State College, Miss., assignors to Food Machinery & Chemical Corp., New York. An herbicidal composition comprising 2-(1-chloropropyl) N-(3-chlorophenyl) carbamate and a carrier, said compound being present in said composition in a phytotoxic concentration.

2,784,072

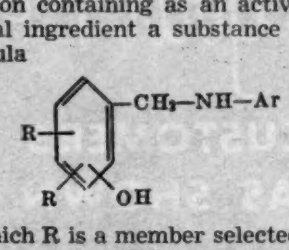
Herbicidal Composition. Patent issued March 5, 1957, to John A. Garmen and Walter P. Brian, Baltimore, Md., assignors to Food Machinery & Chemical Corp., New York. An herbicidal composition comprising 2-(1,3-dichloropropyl) N-phenylcarbamate and a carrier, said compound being present in said composition in a phytotoxic concentration.

2,784,136

Polymeric Insecticidal Compositions and Method for Destroying Insects. Patent issued March 5, 1957, to Gerarda Franciscs Elisa Maria Dierick, Christiaan Pieter Plas, Amsterdam, Netherlands, assignors to Shell Chemical Development Co., Emeryville, Cal. A composition suitable for destroying insects comprising an effective toxic amount of a liquid polymer of an alkene having not more than about 20 carbon atoms per molecule, said polymer having a molecular weight of from about 250 to about 3,000, and a minor amount of a surface-active agent in an aqueous medium.

2,784,138

Fungicidal Compositions of N-Aryl-Hydroxyarylmethylamines. Patent issued March 5, 1957, to Richard Wegler, Leverkusen, and Ferdinand Grewe and Erik Regel, Kiln-Flittard, Germany, assignors to Farbinfabriken Bayer Aktiengesellschaft, Leverkusen, Germany. A fungicidal composition containing as an active fungicidal ingredient a substance of the formula



in which R is a member selected from the group consisting of hydrogen, lower alkyl, halogen and nitro, Ar is a member selected from the group consisting of (1) a halo-substituted phenyl radical, (2) a nitro-substituted phenyl radical, (3) an arsanilic acid radical, and (4) an alpha-pyridyl radical—and a carrier.

2,784,140

Emulsifier Composition and Insecticidal Emulsions Obtained Therewith. Patent issued March 5, 1957, to Edward Broderick, Philadelphia, Pa., assignor to Rohm & Haas Co., Philadelphia. An insecticidal composition comprising 20% to 90% by weight of an oil solvent essentially consisting of hydrocarbon boiling within the range of 176° F. and 760° F. of which at least 15% are aromatic, 6% to 10% by weight of emulsifying material comprising at least one alkaryl ether type of emulsifier selected from the group consisting of compounds of Formulas I, II, and III as defined in the specification, methanol in an amount of 5% to 35% by weight of the total alkaryl ether component of the emulsifying material, and 4% to 60% by weight of a chlorinated bicyclic terpene.

Industry Trade Marks

.The following trade marks were published in the Official Gazette of the U.S. Patent Office in compliance with section 12 (a) of the Trademark Act of 1946. Notice of opposition under section 13 may be filed within 30 days of publication in the Gazette. (See Rules 20.1 to 20.5.) As provided by Section 31 of the act, a fee of $25 must accompany each notice of opposition.

X-77, for sticker-spreader for use in agricultural chemicals. Filed Feb. 13, 1956, by Hercules Glue Co., Ltd., doing business as Colloidal Products Corp., San Francisco, Cal. First use Aug. 30, 1954.

Carac, in heavy lower-case letters, for insecticides, fungicides, weed killers, and animal repellents. Filed April 10, 1956, by The Carac Corp., Freeport, N.Y. First use July, 1953.

Weedone Brush Killer L-329, in capital letters, for chemical preparations useful in killing weeds. Filed June 25, 1956, by American Chemical Paint Co., Ambler, Pa. First use April 8, 1955.

Vaypite, in capital letters, for insecticide. Filed June 25, 1956, by Walter Ratner, doing business as The Grant Co., Chicago, Ill. First use June 16, 1956.

Eradex, in capital letters, for chemical agents for destroying animals and plants. Filed June 27, 1956, by Farbenfabriken Bayer Aktiengesellschaft, Leverkusen-Bayerwerk, Germany.

Morestan, in capital letters, for chemical agents for destroying animals and plants. Filed June 27, 1956, by Farbenfabriken Bayer Aktiengesellschaft, Leverkusen-Bayerwerk, Germany.

Muscaron, in capital letters, for agents for controlling flies, gnats, moths, cockroaches, bugs. Filed June 27, 1956, by Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Bayerwerk, Germany.

Naco, in capital letters on yellow and green shield, for fertilizers and fertilizer materials. Filed March 9, 1956, by W. R. Grace & Co., New York. First use 1950.

Rotosul, in capital letters, for insecticidal dust for use in agriculture. Filed Jan. 19, 1956, by W. R. Grace & Co., New York. First use in 1945.

Pure-Gam, in capital letters, for insecticidal dust for use in agriculture. Filed Jan. 19, 1956, by W. R. Grace & Co., New York. First use in 1951.

Na-Klor, in capital letters, for insecticidal dust for use in agriculture. Filed Jan. 19, 1956, by W. R. Grace & Co. First use 1948.

Benny-Hex, in capital letters, for insecticidal dust for use in agriculture. Filed Jan. 19, 1956, by W. R. Grace & Co., New York. First use in 1945.

Rid-U, in capital letters, for liquid and powdered insecticides, rodenticides and stock sprays. Filed Feb. 15, 1956, by H. V. Smith Co., St. Paul, Minn. First use Nov. 1, 1920.

Phybam-S, in capital letters, for fungicide wettable powder. Filed June 19, 1956, by Pittsburgh Plate Glass Co., Pittsburgh, Pa. First use March 6, 1956.

Spotfume, in capital letters, for fumigant for the control of insects. Filed June 28, 1956, by E. H. Leitte Co., Minneapolis, Minn. First use in or about April, 1953.

Or-Fer-Gro, in hand-lettered capitals, for packaged fertilizer. Filed Aug. 7, 1956, by The Pennsylvania Salt Mfg. Co., Philadelphia. First use Aug. 27, 1954.

South Dakota Weed, Pest Conference Set

BROOKINGS, S.D.—Topping the list of speakers for the tenth annual South Dakota weed and pest control conference to be held at Madison March 19 and 20, is E. P. "Dutch" Sylwester, extension botanist from Iowa State College. His illustrated talk will cover weed chemical development, mechanical equipment and timing techniques required in effective weed control.

Other topics to be considered during the two day conference include the newest data on chemical 'in row' weed control in trees, wild oats control research, perennial weed control research and the techniques that make a county weed program successful.

March 20 conference attenders will see a film entitled "Tree Bank"; they will also hear extension specialists discuss crop insect control for 1957, methods of carrying on a county weed control education program.

Speakers other than Mr. Sylwester include: A. M. Eberle, dean of the agricultural division at South Dakota State College, L. A. Derscheid, associate agronomist from South Dakota State College, extension service specialists and State Weed Board personnel.

Bernard Linn, South Dakota's commissioner of school and public lands who is also a State Weed Board member, will discuss "Pioneers and Progress," as the banquet speaker.

W. Ward Jackson

NAMED—W. Ward Jackson, vice president, Commercial Solvents Corp., New York, has been named to head the company's sales and marketing activities, it was announced by J. Albert Woods, president. In addition to over-all sales, Mr. Jackson's new responsibilities will include the corporation's advertising and sales promotion, market development and traffic activities. Mr. Jackson was previously vice president of the petrochemicals division.

Freeport Output, Sales Hit Record; New Chairman Appointed

NEW YORK — Production and sales of sulphur by Freeport Sulphur Co. in 1956 were the highest in the company's history, Langbourne M. Williams, chairman and president announced in the 44th annual report mailed to stockholders.

Other highlights of the report were:

Net earnings, dividends and net assets also increased to new records. Earnings, up for the fifth consecutive year, were $13,377,585, or $5.3[illegible] per share, as previously reported on a preliminary basis, compared to $12,401,058, or $4.96 per share, in 1955.

Rights to a "major new source of sulphur" in the Gulf of Mexico were acquired, and upon approval by the Interior Department of the lease assignment Freeport will design, install and operate the first completely offshore mining plant in the history of the sulphur industry.

Production and shipments of potash were inaugurated in February by a jointly owned subsidiary from new facilities in New Mexico.

John Hay Whitney recently resigned as chairman of the board of Freeport and Mr. Williams, president, was elected chairman to succeed him.

Mr. Whitney resigned as chairman and as a director on Feb. 13, immediately after Senate confirmation of his nomination as ambassador to the Court of St. James's in London. He had been elected a director of Freeport in 1930 and had become chairman in 1934. He resigned as chairman when he entered the Army Air Forces in World War II but returned to the post after the war.

Mr. Williams, who has been active in the management of Freeport since 1930, will continue to serve also as president, a position he has filled since 1933.

SMALL FOREST HOLDINGS

COLLEGE STATION, TEXAS — Nearly 75% of Northeast Texas commercial forest lands are in small private holdings of 21 to 5,000 acres according to J. H. Southern and L. L. Miller of the Texas Forest Service.

SDA Recommends and Conditioning for Northeast Farmlands

WASHINGTON—Research engineers and soil scientists of the U.S. Department of Agriculture, working cooperatively with state experiment stations in the Northeast, recommend increased efforts toward land conditioning on farmlands in this region.

Measures advocated include clearing, forming and smoothing the land, plus water-management practices to improve field conditions. These recommended improvements are designed to increase production efficiency, and to make farm machinery work better and last longer on northeastern farms.

Land-conditioning equipment can be leased from many of the soil conservation districts in the Northeast region at nominal cost, and farmers can also obtain technical advice on recommended practices from the Soil Conservation Service and Cooperative Extension Service, USDA said.

Research has shown that land smoothing and grading can help farmers plant, cultivate, fertilize and harvest their crops with greater efficiency and less labor. Once fields are leveled and cleared of rocks, stumps and other debris, high-speed machines can be operated with less damage to the crops and less wear on the equipment. Eliminating heavy fence-row vegetation, draws, irregularly shaped fields and other inconvenient areas will also provide more workable fields for high-speed machinery.

By leveling high spots and filling depressions, a New Jersey farmer was able to speed-up haying and other farming operations in his field by 30%. Machine wear and driver fatigue were also reduced as a result of his land smoothing operations.

Water control, USDA scientists point out, also plays an important role in obtaining full production efficiency on Northeastern farms. Through proper water management, the overflow onto crop fields from nearby areas can be diverted to safe outlets with minimum erosion damage. Fertile crop lands may be drained by installing sub-surface drains, constructing surface ditches or drainage terraces, and grading fields for proper surface-water runoff.

Just as important, land unsuited to efficient crop production should be converted to grassland and woods.

Although considerable progress is being made in the Northeast in application of land-conditioning practices, in construction of diversions, terraces and drains and in land-use conversions, many acres of farmland in the region still need conditioning, USDA said.

VEGETABLE PRODUCTION

STATE COLLEGE, N.M.—The 11,380 acres of land planted to vegetables in New Mexico in 1956 produced a gross income of $5,606,679, according to figures announced by the Fruit and Vegetable Standardization Service at New Mexico A&M College. Due to the exceedingly high price of onions this season when many 50-pound sacks sold for $4.50 f.o.b., the combination of 310 acres of Grano onions and 180 acres of Sweet Spanish which produced 366,191 sacks, made onions the leading crop with a gross income of $1,040,673. Seven hundred acres of spring and fall lettuce with a production of 1,036,169 two-dozen cartons, producing an income of $1,038,356, ranked second. Carrots with production of 415,000 crates with an income of $1,037,750 was third.

IRRIGATION EXHIBITION

DAVIS, CAL.—A working exhibition of modern irrigation equipment and techniques will be held May 7-9 at the University of California Campus here.

San Jose Scale Increases In California Orchards, Entomologist Reports

DAVIS, CAL.—Something is favoring a build-up of San Jose scale in California peach orchards, warns a University of California entomologist, and intensified measures will be required for its control.

Speaking recently at Peach Day on the University's Davis campus, Frank Summers, entomologist, called the scale a "very vital matter" for all peach growers. He also described recent outbreaks of Oriental fruit moth in the San Joaquin Valley, and indicated how they might be checked.

"It is apparent—for reasons not clear—that San Jose scale has become aggressive during the past few seasons," Mr. Summers said. He recommended a drenching application of dormant oil spray as the best available defense against serious scale outbreaks. "Recent experimental data confirm the adequacy of dormant oil sprays," he said, "but the pest often gains considerable headway before its presence is detected."

Current tests at Davis are aimed at development of sprays that may be applied in summer, fall, or early winter as an alternative to the midwinter oil sprays. The most effective mixtures yet identified contain parathion, Mr. Summers said.

The entomologist reported localized infestations of the Oriental fruit moth, whose larvae cause damage to twigs and fruit similar to that caused by the peach twig borer.

The moth first appeared in the state in 1942, but it apparently disappeared later for several years. Then, about four years ago, it began to cause serious trouble in Kings County orchards until heavy DDT applications brought it under control.

"Another area of infestation now appearing near Visalia, in Tulare County, does not necessarily indicate that the moth is actively spreading," Mr. Summers explained. "It is possible that residual infestations are building up under favoring circumstances, as happened earlier in Kings County."

P. G. T. Nash Named To New Fisons Post

LONDON—P. G. T. Nash has been appointed joint managing director of Fisons (Pty), Ltd. in South Africa. He will take up his duties on May 1. Mr. Nash is currently sales manager in southeastern England for the parent firm of the South African concern, Fisons, Ltd., of Ipswich.

IRRIGATION CLINIC

URBANA, ILL.—A farm irrigation clinic will be held at the University of Illinois March 21. Topics for discussion include big-gun sprinklers, sources of irrigation water, irrigation economics, irrigation results at Dixon Springs, plant-soil-water relationships and labor-saving equipment and methods.

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NAC SPRING MEETING

(Continued from page 1)

N.Y., NAC vice president, was chairman of the final session of the convention on Friday. In his opening remarks, Mr. Vernon pointed out the continuing pattern in the use of chemical products in agriculture, and said that the industry can expect a steady increase. He said that although many problems face the trade, these are being solved through research and experience.

F. C. Shanaman, president, Pennsylvania Salt Mfg. Co. of Washington, Tacoma, discussed the agricultural chemical industry from the standpoint of return on money invested. He pointed out that the industry faces many problems that other businesses do not have to consider, and that the number and extent of variables with which the pesticide industry must contend may cause wide distortions from season to season. Added to that, he said, the "regrettable scarcity of facts and statistics" to use as a backdrop from which to judge how well a company may be doing, or how well the agricultural chemicals industry compares to allied industries, or to industry at large, makes it difficult to get a clear picture.

Observations on How The Industry Operates

It is possible to make some observations on how the industry operates as a whole, he said. "Maybe at times, it appears facetious to refer to agricultural chemicals as a 'business' because of its unpredictability," he said. "It has such peaks and valleys of activity, including profit and loss, that only the fearless or misguided are expected to be found among our associates."

Mr. Shanaman added, however, that the business should be judged by yardsticks similar to those applied to other businesses or industries. "These yardsticks may vary somewhat for those investing or lending money, or using accumulated funds generated within a company, then it it is axiomatic that each will want to know what the return on capital will be," he said.

A formula for determining what return should be expected from a given amount of capital was presented by the speaker, who said that percent of return on capital employed is the percent of profit from sales, multiplied by turnover. For illustration, with rounded figures for simplicity, Mr. Shanaman presented this formula:

$$\frac{\text{Net Profit \$100,000} \times 100}{\text{Sales \$1,000,000}} \times \frac{\text{Sales \$1,000,000}}{\text{Capital \$500,000}} = \text{\% return on capital employed}$$

10% x 2 equals 20%

This formula, he said, can be a workable tool, if what is sought is a quick and easy portrayal of what we are returning from our efforts and capital. Improvements may be made by decreasing costs, increasing prices or otherwise increasing net sales and reduction of capital required, he said, and added that such improvements are assisted greatly "by better inventory control, reduced accounts receivables, better use of generated cash, and more careful consideration of additions to fixed capital."

A warning about the dangers of obsolesence was sounded by the speaker who said that disregard of this danger can lead to "unfortunate experiences." He pointed out that the quantity and quality of research being conducted by the chemical industry make the factor of obsolescence extremely important.

"It can adversely affect profits during the years when rapid write-offs are being taken, but regardless, it is a hallmark of good practice in this business to take such write-offs if the company is involved with newer type pesticides. As plants and products become obsolete," he said, "a company usually executes an orderly retreat and does so more rapidly than the decline of product or products in the market place. Not to do this makes the company more than a spectator at the funeral—it becomes a participant in the ceremony. As a product reaches the end of its life cycle, orders are scattered, irregular, and turn more and more toward unprofitability."

Not only in the field of sales is the obsolescence of a product important, Mr. Shanaman declared, but also during an economic downswing, the climate in respect to new capital is inclined to turn from cool to frigid. "In a diversified company, each dollar requested for agricultural chemicals is judged more critically than before as to its ability to earn in comparsion with other company activities.

"Outside capital doesn't show any great enthusiasm or willingness to invest, and borrowed money is difficult to come by except under terms and interest rates which seem to reflect a knowledge of what happens to us during one of these billious periods," he told the group. "The chances are that cost reduction alone won't give improvement desired and reduction in capital employed may come hard because of competition," he added.

The almost complete lack of statistical data within the industry was described as a sign of "immaturity" of the trade as compared with coal, steel, lumber and other industries. The great data famine makes it extremely difficult if not almost impossible, to get an accurate over-all picture of the industry, he said.

However, the speaker said that it is probable that more than 50% of the national formulators in the trade are earning less than 4% on sales before taxes. "Out-of-pocket costs are probably 70-90¢ in every sales dollar, leaving little to cover fixed costs and provide a profit. Total capital required is high, amounting on the average between 70 and 75¢ for each sales dollar. The major investment is not in plant and equipment, but in current assets, namely inventories and accounts receivable."

In the case of inventories, there are raw materials, packages, labels, intermediates and concentrates and finished products which frequently accumulate in large amounts because of the seasonal nature of the business, he pointed out. "Furthermore, inventories of finished goods are found outside of producers' warehouses, in bonded warehouses and in the warehouses of resellers as owned or consigned stocks," he went on.

Supplier Extends Consignment to Dealer

In some cases, formulators consign their labeled products made from consigned raw materials or concentrates and the supplier of the raw material or concentrates thereby extends the consignment to the dealer or the grower level, as the case may be. In some instances, the owner of consigned material actually pays the reseller a storage fee, it was pointed out.

"The evident effect of such practices," the speaker told the audience, "is to increase the number of dollars tied up in inventories, increase the cost of goods to be sold, and considerably increase the paper work for the seller."

That the record of accounts receivable in the industry is high, when compared to the average of all industries, was brought out by the speaker. He said that terms of 30 days net are exceptional, and that payment is frequently not required for 60 to 120 days, or even longer.

Another questionable practice cited by the speaker is that of making the invoice price the price at time of shipment, but protected against decline. A worse practice, which he said seems to be growing, is that of invoicing at time of shipment, but payment is not required until the end of the season and after the customer has sold the products for which the sellers' goods have been required and used. "In such cases also, prices are reported to be guaranteed against decline," it was reported.

Mr. Shanaman illustrated parts of his talk by the use of charts which compared various industries with the agricultural chemical trade, as to current assets as a percent of total assets; receivables as a percent of net sales and as a percent of total assets; inventories as a percent of cost of sales; and before-tax return on investment.

Robert L. Furniss, chief of the division of forest insect research, Pacific Northwest Forest and Range Experiment Station, USDA, told the NAC group that pest control offers both an opportunity and a challenge to the chemical industry. It is "an opportunity for profit and a challenge to develop better ways for protecting our forest resources," he declared.

The speaker said that more technical knowledge, more effort, and more money are being put into forests because of increasing demands for forest products.

Pests at Work from Seed To Finished Wood Product

"From the tree seed to the finished wood product, pests are at work," he declared. "Insects, diseases, and animals—the three principal kinds of pests of forests—killed 7.5 billion board feet of sawtimber in the continental United States in 1952. They caused an estimated 23 8 billion board foot loss of growth by killing young trees, destroying sound wood, reducing wood quality, and slowing growth. All told, timber losses caused by pests in 1952 were more than half as much as all the green timber that was cut. These are losses that occur every year, losses that are called normal—'nature's will.'

"Periodic catastrophic outbreaks of insects and diseases exact an additional heavy toll. These catastrophes are a special challenge to the forester and chemist," he said, and went on to cite figures showing how much timber loss has been caused by insects and diseases since 1900.

Insects such as spruce budworm, mountain pine beetle, Western pine beetle, Engelmann spruce beetle and Douglas-fir beetle have wrought great destruction over the years, while Chestnut blight disease has been responsible for additional serious losses.

In fact, this disease caused losses totaling 13½ billion board feet of lumber in northern states from 1912 to 1924, and nearly 5 billion board feet in the southern states from 1925 to 1940. The insect causing most damage in Idaho and Montana from 1911 to 1935, was the mountain pine beetle which cost the industry 15 billion board feet of lumber. The Western pine beetle in Oregon alone, caused loss of 12 billion board feet of lumber between 1921 and 1937, he reported. All told, the losses came to some 75,873,000,000 board feet of lumber in the years since 1900.

That insect control in forest regions is quite different than that employed in agricultural crops was emphasized by Mr. Furniss. He declared that there are important differences which make it desirable to consider forest pest control as a special field.

Among the points made by the speaker in this connection were the facts that costs per acre must be kept very low; that areas are large and broadcast methods of application bring economies; that many different kinds of pests inhabit forests continually, thus complicating the control problem as to time, place, and types of materials to be used.

Tolerance to Chemicals Not a Big Problem

It was also pointed out that treatment of a particular forested area is not often repeated, so insect tolerance to chemicals is not so much of a problem as in agriculture. Furthermore, the harmful effects on beneficial insects are likely to be less. Another difference pointed out by Mr. Furniss was that the need for toxicological and residue studies is relatively much less than with agricultural crops. This should mean that expenditures for developing forestry chemicals will be less than in agriculture. "However," he said, "it must be recognized that wholesale application of toxic materials to a forest creates a potential threat to wildlife that must be taken into account."

John T. Coyne, assistant head of the pesticide regulation section of the plant pest control branch of USDA, brought the conventioneers up to date on Federal legislation regarding pesticides. The task of clearing over 200 chemical products for 4,500 uses has been completed, he said, and these findings are being printed by USDA for wide distribution.

Charts have been prepared for each chemical, he said, with both the common name and the true chemical name being shown. Other data on the sheet will be the names of crops on which it is used; the tolerance or basis of acceptance; the dosage at which the product may be applied without leaving illegal residues; and limitations involved in the tolerances as shown.

Mr. Coyne emphasized that the data sheets are meant to be patterns, rather than recommendations. In some cases, he said, it may be possible to apply heavier dosages at longer intervals, but in each case, residue data must accompany requests. Supplements to these sheets will be sent out later, he said.

Newly-established chemicals present little problem, since they must set tolerances before they go on the market, but there are still about a thousand uses for older pesticides that are not yet cleared.

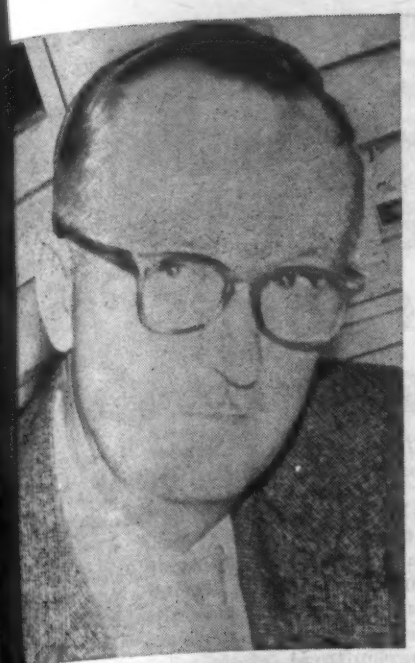
The meeting ended with a review of NAC staff activities, with reports by Lea S. Hitchner, executive secretary; Joseph A. Noone, technical adviser; Jack Dreessen, herbicide expert; and Miss Lee Grobe, assistant treasurer of the NAC.

Chairman of the general committee in charge of the meeting was Howard J. Grady, California Spray Chemical Corp., Washington, D.C. Serving on the committee were A. F. Kirkpatrick, American Cyanamid Co., Oakland, Cal., co-chairman; and Donald L. Miller, NAC Assn., Washington, D.C.

G. F. MacLeod, Sunland Industries, Inc., Fresno, Cal., was chairman of the program committee. Working with him on what many convention goers termed an "excellent" program were the following committee members:

W. E. Ball, Stauffer Chemical Co., San Francisco; E. J. Davis, Los Angeles Chemical Co., Los Angeles; J. Flebut, Niagara Chemical Div., Food Machinery & Chemical Corp., Richmond, Cal.; G. A. Meyer, Chipman Chemical Co., Palo Alto, Cal., and D. T. Prendergast, The Dow Chemical Co., San Francisco.

The arrangements committee was headed by R. A. Lamoree, Stauffer Chemical Co., San Francisco, and the golf committee by E. Schuler, Monsanto Chemical Co., San Francisco.



Charles M. Hutchinson

VICE PRESIDENT — Charles M. Hutchinson has been named vice president of Panogen, Inc., Ringwood, Ill. Since joining Panogen in 1950, Mr. Hutchinson has served as sales manager for the Illinois firm, a major manufacturer of seed treating materials and equipment. Mr. Hutchinson will continue his duties as sales manager.

Drouth Continues To Damage Crops In Southwest States

KANSAS CITY — High winds kicked up clouds of dust in the dry southwestern wheat belt last week. The storms were the most severe of the season, but the extent of the crop damage remains uncertain. The greatest amount of blowing took place in central and western Kansas. The high winds also brought dusters to Colorado, Nebraska and northwestern Oklahoma.

Moderate rainfall was received the past week in Texas, Oklahoma and Kansas, but the amounts were not large enough to guarantee crop condition for very long.

Generally speaking, the condition of wheat is fairly good in Oklahoma and Texas, except the extreme western areas. There the plant is still alive and has a fair root system, but needs moisture quickly.

In Kansas, the southeastern part of the state is in fairly good condition, and the central area has improved in recent weeks, but large areas in the western half continue in critical danger. The whole state of Kansas has gone through the winter with much less than normal moisture. Conditions in Nebraska are no better.

Oklahoma Chemical, Seed Firms Combine

OKLAHOMA CITY — The Nichols Seed Co., Oklahoma City, and the Nichols Fertilizer & Chemical Co., Wheatland, have merged under the name of Nichols Seed & Fertilizer Co., with Earl Nichols named president of the expanded organization. John I. Taylor, former president of the Oklahoma Farm Bureau, is general manager.

The company will continue the manufacture of commercial fertilizer and will process seed. An auxiliary seed-cleaning plant at Jones, Okla. will be operated under management of Russell L. Pierson, former secretary of the Oklahoma Crop Improvement Assn.

BRITISH GROUP ELECTS

LONDON—The council of the Association of British Organic Fertilizers, Ltd., has elected A. G. Ray of George Monro, Ltd., as its president for 1957. The vice president is G. T. Colsell, Shaw, Scott & Co., Ltd.

Gloomicides

During the frenzied speculation in uranium stocks, a Toronto broker called a lady customer to tell her about a certain issue. He said he thought there were good prospects, but the stock was admittedly a gamble. It was selling for a dollar a share.

The lady, who had gambling instincts but little luck, was interested. "Okay," she agreed, "you buy me 1,000 shares at a dollar a share, and if it comes up there again, sell it!"

★

Actually most women keep secrets as well as men. It just takes more women.

★

"My wife is the most extravagant woman in the world," moaned Sam.

"Oh, it can't be that bad," said his friend.

"You don't know," said Sam. "Every morning she asks me for ten dollars. Every single morning including Sundays, and we've been married for eighteen years."

"Well, what does she want all the money for?"

"I don't know," replied Sam. "I've never given it to her yet."

★

The teacher was explaining to the class the meaning of the word "recuperate." "Now, Tommy," she said to a student, "when your father has worked hard all day, he is tired and worn out, isn't he?"

"Yes, ma'am."

"Then when night comes, and his work is over for the day, what does he do?"

"That's what mother wants to know," Tommy explained.

★

A friend of ours motoring in Vermont last week-end got lost on one of the back roads and pulled up to a farmhouse to ask directions to Bennington. The farmer in residence leaned comfortably on the side of the car and proceeded to cooperate at length. "You just go a few miles more up this road until you hit a dirt road, skip the next crossroad, and turn right on the crossroad after that. When you cross a bridge on this road, turn left at the next crossroad. From there on, you won't have any trouble at all." Our friend thanked the farmer, but the latter made no move. He just kept leaning on the side of the car. Finally, our man said firmly, "I've got to go now. I'm in a great hurry."

"No need to be," the farmer said. "That bridge I told you about is washed out."

★

"What kind of fellow is Paul?"

"Well, the other night the lights went out in his girl's parlor and he spent the rest of the evening tinkering with the fuses."

★

A salesman making a two-week stay in town bought some Limburger cheese to eat in his room. When he got ready to leave, he still had half of it. He didn't want to pack it, nor did he want to leave it lying in his room, so he buried it in the dirt of a potted plant on the window sill. A few days later he received a telegram from the hotel. "We give up. Where did you put it?"

★

After months of effort, the old merchant at the general store finally collected from a stubborn debtor. "Say on my receipt," said the ornery customer, "that I don't owe you a thing."

With painstaking care, the old storeman wrote, "Bearer don't owe the undersigned nothing—and ain't going to."

C. F. Wolters, Jr. Olin Smith Robert R. Wood

C. F. Wolters, Jr. to Retire from Diamond; Promotions Announced

CLEVELAND — Retirement of a key executive and promotion of two others to new managerial responsibilities in the field sales organization of Diamond Alkali Co., Cleveland, Ohio, were announced here March 13 by W. H. McConnell, vice president—sales.

The appointments become effective Oct. 1, when C. F. Wolters, Jr., a 37-year sales veteran and since 1943 branch manager of Diamond's Philadelphia branch sales office, will retire from the company.

Olin Smith, assistant branch sales manager for Diamond at its Chicago office for the past two and a half years, succeeds Mr. Wolters at Philadelphia upon his retirement.

Robert R. Wood, special staff assistant in the sales department at the company's national headquarters in Cleveland since September, 1955, takes over Mr. Smith's assignment at Chicago upon his transfer to Philadelphia.

In preparation for their new assignments, Mr. Wood will go to Chicago on or about April 1 and Mr. Smith to Philadelphia on or about June 1.

Mr. Wolters' retirement six months hence will bring to a close a sales career in the chemical industry dating back to 1920, when he created the Consumers Chemical Co. in Philadelphia. When this organization was absorbed by Diamond in 1943 and became its Philadelphia branch sales office he was named manager.

A native of the Empire State, Mr. Wolters is a mechanical engineering graduate of the University of Rochester and a member of the Alpha Delta Phi fraternity. At the 1956 commencement he was awarded one of three university citations to alumni in recognition of his many contributions to its alumni activities.

Mr. Smith, Mr. Wolters' successor at Philadelphia, is also a veteran of many years' sales experience with Diamond. Born in Washington, D.C., he joined the company in 1938 at its New York—New England branch sales office following graduation with a B.A. degree in chemistry at American University.

From January, 1942 to October, 1945, Mr. Smith served in the Navy first as an ensign and later as a lieutenant. Returning to Diamond's New York—New England branch sales office in January, 1946, he was promoted to special staff assistant in the sales department at the company's national headquarters in Cleveland in May, 1953, and became assistant branch manager at Chicago in October, 1954.

Mr. Wood, Diamond's new assistant branch manager at Chicago, also started his career with the company as a member of its New York—New England branch sales staff, which he joined in 1948 upon graduation with an A.B. degree in chemistry from New York University. He also studied chemical engineering at NYU's College of Engineering. In September, 1955 he was transferred to Diamond's general offices in Cleveland, becoming special staff assistant in the sales department. A World War II veteran, Mr. Wood served as an officer in the Army chemical warfare service for four years.

Insect Season Begins in Many Georgia Counties

ATHENS, GA.—The first plum curculios of the season were taken from a peach tree at Fort Valley on Feb. 26. One of the four curculios collected was a female that contained fully matured eggs.

Light infestations of cabbage aphids on cabbage in Thomas and Lowndes counties have been reported. Heavy infestations of cabbage looper on cabbage have been found in Thomas County. Light in Lowndes County.

Vegetable weevils are light to moderate on turnips in Jasper County.

Vegetable weevil is light to moderate on tobacco beds in Colquitt, Grady, Brooks, Berrien, Coffee and Appling counties, and the tobacco flea beetle is light to moderate on tobacco beds in Thomas, Brooks and Berrien counties, according to reports.—C. R. Jordan.

Bag Manufacturers Elect President

NEW YORK — Fred E. Brown, United Bags, Inc., St. Louis, Mo., has been elected president of the Independent Bag Manufacturers Assn. He succeeds Aaron Einhorn, of the Premier Bag Co. Armand Jacobs, Iroquois Bag Co., Buffalo, was elected vice president.

Mr. Brown is the founder of United Bags, Inc., which he organized in 1950. He was formerly associated with the M. M. Bosworth Co., Memphis, Tenn.

Industry Gifts to California Schools Listed

BERKELEY, CAL. — A total of $9,171 was given to the University of California during December to promote several research projects in the general field of agricultural chemicals and insect control on crops.

Two donations totalling $3,000 each were given by the Chipman Chemical Co., Inc. and the Chemagro Corp. The first, allocated to the agricultural college at Davis will help finance a study on borate-chlorate weed control. The second will support studies on the effectiveness of Chemagro insecticides and miticides, at the Riverside campus.

A gift of $2,400 from American Potash and Chemical Corp. also for the Riverside campus is for partial support of cooperative experimental work on several insecticide materials. A fourth gift of $771 was made by the California Cooperative Rice Research for a rice insect control program, being performed on the campus at Davis.

A grant of chemicals has been given to the University at Berkeley by Pennsylvania Salt Manufacturing Co. for a walnut insect research program.

Croplife®

A WEEKLY NEWSPAPER FOR THE FARM CHEMICAL INDUSTRY

The regional circulation of this issue is concentrated in the Northeastern states.

PESTICIDE INDUSTRY ANALYZED . . .

Need More Data, Fewer Consignment Sales

How the agricultural chemical industry stacks up with other trades in the matter of return on capital investment was thoroughly explored by Fred C. Shanaman, president of Pennsylvania Salt Manufacturing Co. of Washington in his talk before the National Agricultural Chemicals Assn. at San Francisco.

Some of the unsual factors that enter into the pesticide business, Mr. Shanaman pointed out, are those of uncertainty about demand, the relatively low average return on investments, the cost of obsolesence, and the cost of large inventories and consignment selling. He reminded that the history of the trade is one of peaks and valleys which make it difficult to measure as one does most other businesses, but at the same time, the common denominator is the factor of return on investment which he described as a "reasonable yardstick."

One of the limiting factors in the industry, he pointed out, is the lack of statistical data on what is produced by the trade. "If we attempt to compare ourselves with industries such as coal, steel, lumber, or perhaps other segments of the chemical industry, we must admit to our complete immaturity in the way of statistical data," he said. "This is broadly true of all groups within agricultural chemicals," he added.

From the data on hand, however, Mr. Shanaman estimated that in the case of formulators in the business, more than 50% are earning less than 4% on sales before tax. "Out-of-pocket costs are probably 70-90¢ on every sales dollar, leaving little to cover fixed costs and provide a profit. Total capital required is high, amounting on the average between 70¢ and 75¢ for each sales dollar."

Still, the major investment of the agricultural chemical industry is not in plants and equipment, but in current assets, namely inventories and accounts receivable, it was pointed out. "In the case of inventories, there are raw materials, packages, labels, intermediates, and concentrates and finished products which frequently accumulate in large amounts because of the seasonal nature of the business.

"Furthermore, inventories of finished goods are found outside of producers' warehouses in bonded warehouses and in the warehouses of resellers as owned or consigned stocks," he said. In some cases, formulators consign their labeled products made from consigned raw materials or concentrates and the supplier of the raw material or concentrates thereby extends the consignment to the dealer or the grower level, as the case may be. In certain instances, inventory placed in resellers' warehouses is not only consigned, but the owner pays the reseller a storage fee!

Obviously, the effect of such practices is to increase the number of dollars tied up in inventories, increase the cost of goods to be sold, and increase to a considerable extent, the paper work for the seller.

Another business practice which makes the industry unusual is that of accounts receivable, Mr. Shanaman said, where terms of 30 days are the exception, rather than the rule. "Invoices made at time of shipment carry 30-day terms, but frequently, by agreement, payment is not required for 60-90-120 days, or longer. In other instances, invoicing is actually delayed for 60-90 days, or 120 days beyond time of shipment, and after making use of such liberal credit, the buyer still has 30 days in which to pay."

These practices, too well-known to the industry, obviously stand in need of correcting. How to do it, and who will make the start is probably the biggest question. In his concluding remarks at the San Francisco meeting, Mr. Shanaman put his finger on the problem and its eventual solution, when he said:

"Regardless of our volatility, we can judge ourselves professionally the same as others. We can keep records and projects from them. We can have good business practices related to sales, credit, inventories, and profit as is the case with our contemporaries, in or out of the chemical field. Agricultural chemicals industry is a fascinating, exciting business. We have been immature but there is no compelling reason why we must continue. Maturity will require us to chart our course more accurately and with somewhat less emotion. We can understand our problems better and plan decisively with the best of them. A willingness so to do is urgently needed. A commitment to do better in the area of return on the dollars employed is essential. It is certain that we can do it—that we will want to do it—and in time we will have to do it or many of us will not survive."

Four "Rights" Cited

J. W. Heuberger, extension specialist in plant pathology at the Delaware Agricultural Experiment Station, Newark, in a recent news bulletin urged the farmers in his state to be "right" in four ways as they use pesticidal materials during the 1957 season.

The four "rights" as propounded by Mr. Heuberger, are simple. They are: "Use the right materials, in the right amounts, at the right time and in the right way."

The same idea has been published many times before, but this puts it in a catchy way that might be helpful to everyone who sells pesticidal materials.

Covering Idle Acres

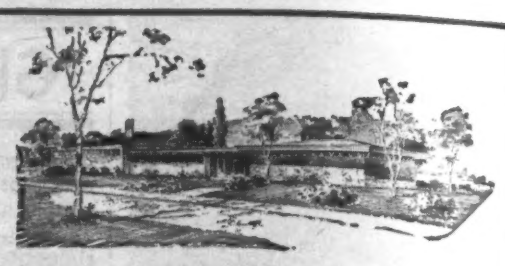
The movement spearheaded by the National Plant Food Institue to make provision for establishing cover on land withdrawn from crops into the soil bank appears to have borne some fruit. At least, the U.S. Department of Agriculture recently issued a statement, pointing out that soil banked land is eligible for approved cover crop practices under the Agricultural Conservation Program (Croplife, Page 1, March 4). In the statement, USDA encourages farmers to place a cover on their idle acres, and all hands in the fertilizer industry should do the same. This is something more than just setting up a market for fertilizer. One of the purposes of the soil bank—that of conserving the land—will be lost if these acres remain uncovered.

Viewpoint

The opportunity for young people in farming is better now than ever in history, according to Clyde O. May, farm-management service specialist, Michigan State University. It's not the spectacular success story that gives ground for his claim, he said, but the real success lies with young farmers who do the ordinary things extraordinarily well.

Quote

"The role of county weed supervisors is one primarily of teaching, disseminating information and explaining the why and how of various phases of the program. He must be a teacher, a mediator and a diplomat: a teacher to inform; a mediator to create understanding between the various groups and agencies involved; and a diplomat to promote good will and command the respect of all those associated with weed control."—Jake R. Ubel, state weed supervisor, noxious weeds division, Kansas State Board of Agriculture.



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LAWRENCE A. LONG
Editor

DONALD NETH
Managing Editor

EDITORIAL STAFF — John Cipperly, Washington Correspondent; George E. Swarbreck, Canadian and Overseas Editor; Emmet J. Hoffman, Merchandising Editor; Walter C. Smith, Research Director.

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WASHINGTON CORRESPONDENT — John Cipperly, 604 Hibbs Bldg., Washington, D. C. (Tel. Republic 7-8534).

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MEETING MEMOS

March 19-20—Tenth Annual South Dakota Weed and Pest Control Conference, Madison, S.D.

1958

Jan. 7-8—Texas Fertilizer Conference, Texas A&M, College Station, Texas.

EDITOR'S NOTE—The listings above are appearing in this column for the first time this week.

March 26-28—Council for Agricultural and Chemurgic Research, Congress Hotel, Chicago.

March 27-29—North Central Branch of Entomological Society of America, Annual Meeting, Des Moines, Iowa.

April 2—Western Agricultural Chemicals Assn.; Spring Meeting, Hotel Biltmore, Los Angeles, Cal.; C. O. Barnard, 2466 Kenwood Ave., San Jose 28, Cal., executive secretary.

April 8-10—National Institute of Animal Agriculture, Seventh Annual Meeting, Purdue University, Lafayette, Ind.

April 14-15—Fifth Annual California Fertilizer Conference, Fresno State College, Fresno, Cal. Sponsored by California Fertilizer Assn., Sidney H. Bierly, General Manager, 475 Huntington Drive, San Marino 9, Cal.

May 13-15—Carolinas-Virginia Pesticide Formulators Assn., Third Annual Spring Convention, Cavalier Hotel, Virginia Beach, Vt., W. R. Peele, Raleigh, N.C., Secretary-Treasurer.

May 20-22—Chemical Specialties Manufacturers Assn., Drake Hotel, Chicago.

June 9-12—National Plant Food Institute, annual meeting, Greenbrier Hotel, White Sulphur Springs, W. Va.

June 17-19—Fifteenth Annual Convention of the Association of Southern Feed and Fertilizer Control Officials, Dinkler-Tutwiler Hotel, Birmingham, Ala., Bruce Poundstone, Kentucky Agricultural Experiment Station, Lexington, Ky., Secretary-Treasurer.

June 23-26—American Society of Agricultural Engineers, Golden Anniversary meeting, Michigan State University, East Lansing, Mich.

June 26-28—Eighth Annual Fertilizer Conference of the Pacific Northwest, Benson Hotel, Portland, Ore. B. R. Bertramson, Washington State College, Pullman, Wash., chairman.

July 10-14—Plant Food Producers of Eastern Canada, Manoir Richelieu, Murray Bay, Quebec.

July 17-19—Southwestern Fertilizer Conference and Grade Hearing, Galvaz Hotel, Galveston, Texas.

Oct. 2-4—Eleventh annual Beltwide Cotton Mechanization Conference, Shreveport, La.

Nov. 3-5—California Fertilizer Assn. 34th Annual Convention, St. Francis Hotel, San Francisco. Sidney H. Bierly, General Manager, 475 Huntington Drive, San Marino 9, Cal.

Dec. 11-13 — Agricultural Ammonia Institute, Seventh Annual Meeting, Hotel Marion, Little Rock, Ark., Jack F. Criswell, Claridge Hotel, Memphis, Executive Vice President.

1958

Jan. 13-15, 1958—Weed Society of America and Southern Weed Conference, joint meeting. Peabody Hotel, Memphis, Tenn.

Reduction in Oregon Ryegrass Acreage Asked

ALBANY, ORE. — An organized campaign to reduce the western Oregon common and perennial ryegrass acreage by 25% for the next three years was launched at a meeting of 75 growers here recently. The action was taken in an attempt to bolster sagging prices caused by a surplus of these two commodities.

Common ryegrass is now quoted at 3¾¢ and perennial at 5¾¢ lb. The 1950-54 average prices were 7.82¢ for common and 12.02¢ for perennial.

Teams of growers, armed with cooperative agreements, started to contact every grower in Linn, Benton, Lane, Marion and Polk counties. Established growers will be asked to reduce their average acreage for the past three years by 25%. Growers harvesting ryegrass for the first time in 1957 will be asked to make a flat 25% reduction.

The agreement would only be a temporary measure and O. E. Mikesell, Linn county agent, emphasized that the acreage agreements were only a stop-gap measure. He expressed hope that the proposed Oregon Ryegrass Growers Seed Commission, which is slated for a vote soon, would be operating fully in 1959 when the agreements expire.

Imported Grass Shows Promise in Texas Area

BIG SPRING, TEXAS — One of the most promising cultivated grasses being tried in the Southwest is sorghum almum, which was introduced from Argentina. Last year several dozen plots were tried in West Texas and made remarkable yields.

On the Jack Buchanan farm in Howard County, the grass grew eight feet tall, and so many sprouts came up from the roots that by early fall the field was like a bamboo jungle.

The grass is a perennial-like Johnson grass, but grows larger and does not seem as hard to kill out. Feeding tests showed it to be very palatable if grazed before the stalks become too stemmy.

In 1956 several farmers raised a large seed crop and sold it for prices ranging from $2 to $3 lb. From these seed several thousand acres will be planted this year.

When grown in nursery plots the grass showed a decline the second and third years, particularly when grown on shallow soils. Mr. Buchanan says its rank growth will necessitate liberal quantities of nitrogen to be used.

Range Fertilization Trial Under Way in California

VISALIA, CAL. — Native feed production on the foot hill ranges of Tulare County, California, is important to the local livestock producer, according to Robert F. Miller, county farm adviser, who is reporting on fertilization tests which are now being conducted on local ranches.

A large scale fertilizer trial has been established in cooperation with Jack Shannon and John Guthrie of Brea Chemicals, Inc., on rangeland east of Tea Pot Dome near Porterville. The test covers 600 acres of native range fertilized with 47 lb. of actual nitrogen per acre. The test material has been furnished by Brea in the form of ammonium sulphate, and applications have been made by airplane.

The results will be studied at the end of the feeding season by weighing grazing animals on this rangeland and comparing the gains for the year to other animals.

Robert J. Stevens

NEW BAG MANAGER—Robert J. Stevens has been named midwestern district manager of the Raymond Bag Corp., a division of Albemarle Paper Manufacturing Co. Mr. Stevens has had considerable experience in the multiwall paper bag field.

Russell E. Spivey in New Smith-Douglass Post

NORFOLK, VA.—Russell E. Spivey, former manager of the Smith-Rowland Co., and recently serving in a sales capacity for the Smith-Douglass Co., has been named manager of whilesale sales and raw materials procurement, J. A. Monroe, vice president, who heads the Smith-Douglass procurement and wholesale division, has announced.

Third of Illinois Land Needs Potassium

URBANA, ILL. — More than one acre of farm land out of every three in Illinois need potassium, according to University of Illinois agronomists. The shortage is often so severe that crops show definite symptoms of starvation.

While the need for potassium is not as wide spread in central and northern Illinois as in southern Illinois, lack of potassium is seriously reducing crop yields on many farms.

Classified Ads

Classified advertisements accepted until Tuesday each week for the issue of the following Monday.

Rates: 15¢ per word; minimum charge $2.25. Situations wanted, 10¢ a word; $1.50 minimum. Count six words of signature, whether for direct reply or keyed care this office. If advertisement is keyed, care of this office, 20¢ per insertion additional charged for forwarding replies. Commercial advertising not accepted in classified advertising department. Advertisements of new machinery, products and services accepted for insertion at minimum rate of $10 per column inch.

All Want Ads cash with order.

HELP WANTED

PRODUCTION FOREMAN OR MILL SUPERINTENDENT for large New York feed processing firm. Excellent opportunity for man with feed background and initiative. Give full details in first letter. Address Ad No. 2506, Croplife, Suite 3214, 551 Fifth Ave., New York 17, N. Y.

BUSINESS OPPORTUNITIES

FERTILIZER MANUFACTURING PLANT in Ottawa, Ohio, on ¾ acre land. Business in continuous operation since 1938. Plant well located, fully equipped, electrically operated and on railroad siding in thriving farm area. Write Fairfield Enterprises, 347 Madison Ave., New York 17, N. Y.

WANTED TO BUY

WANTED TO BUY — GRANULAR FERTILIZER plant in state of Iowa. Address Ad No. 2526, Croplife, Minneapolis 1, Minn.

FOR FAST ACTION AND RESULTS try Croplife's CLASSIFIED ADVERTISING

Price Increase

NEW YORK — Nitrogen Division, Allied Chemical & Dye Corp., has announced an increase in the price of all solid urea products for agriculture. Effective April 1, 1957, price will be increased $5 per net ton product, on both f.o.b. and freight allowed shipments. All other conditions of sale will remain the same.

INDEX OF ADVERTISERS

Adams & Doyle Eqpt. Mfg. Co. 12
African Pyrethrum Development Co. .....
Allied Chemical & Dye Corp., Nitrogen Division .....
American Potash & Chemical Corp. .....
American Potash Institute .....
Anco Manufacturing & Supply Co. .....
Armour Fertilizer Works .....
Ashcraft-Wilkinson Co. .....
Atkins, Kroll & Co. .....

Baughman Manufacturing Co., Inc. .....
Beaird, J. B., Co. .....
Bemis Bro. Bag Co. .....
Blue, John, Co. .....
Bonneville, Ltd. 7
Bradley & Baker 7
Broyhill Company 15
Butler Manufacturing Co. .....

Chase Bag Co. 3
Chemagro Corp. .....
Chemical Insecticides Corp. .....
Commercial Solvents Corp. .....

Davison Chemical Co. 2
Deere & Co., Grand River Chem. Div. .....
Dempster Mill Mfg Co. .....
Dow Chemical Co. .....
E. I. Du Pont de Nemours & Co., Inc. .....

Eastern States Chemical Corp. .....
Emulsol Chemical Corp. .....

Flexo Products, Inc. .....

Gates Rubber Co. .....
Grand River Chemical Div. of Deere & Co.

Henderson Mfg. Co. .....
Hercules Powder Co. .....
Hough, Frank H., Co. .....
Hypro Engineering Co. .....

Industrial Fumigant Co. .....
International Minerals & Chemical Corp. .. 19

Johns-Manville Corp. .....

Kent, Percy, Bag Co. .....
Kraft Bag Corp. .....
Krause Plow Corp. 11

Larson Machine Co. .....
Larvacide Products 15

Meredith Publishing .....
Miller Publishing Co., The 11, 12
Mineral & Chemical Corp. .....
Mississippi River Chemical Co. .....
Monsanto Chemical Co. .....

National Potash Co. .....
Naugatuck Chemical Div., U. S. Rubber Co.
Niagara Chemical Division, Food Machinery & Chemical Corp. .....
Ninol Laboratories .....
Nitroform Agricultural Chemicals, Inc. .....
Nitrogen Div., Allied Chemical & Dye Corporation .....

Olin Mathieson Chemical Corp. .....

Pacific Coast Borax Co. 17
Penick, S. B., & Co. .....
Pennsylvania Salt Mfg. Co. of Washington
Phillips Chemical Co. .....
Potash Company of America .....
Private Brands, Inc. 12
Progressive Farmer, The .....

Shell Chemical Corp. .....
Sinclair Chemicals, Inc. .....
Smith-Rowland Co., Inc. .....
Sohio Chemical Co. .....
Southern Nitrogen Co. .....
Spencer Chemical Co. .....
Spraying Systems Co. .....
Stauffer Chemical Co. .....
Stewart-Warner Corp. .....
Successful Farming .....

Tennessee Corp. .....

Union Bag-Camp Paper Corp. .....
U. S. Phosphoric Products Division 5
U. S. Potash Co. .....
U. S. Rubber Co., Naugatuck Chem. Div. ...
U. S. Steel Corp. .....

Velsicol Chemical Corp. 13
Virginia-Carolina Chemical Corp. .....

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AUGUST 23, 1954
No. 31
Cover Crop Provisions of ACP Outlined
Program Authorizes Payment for Lime, Fertilizer, Seed
Impact of Farm Law on Industry Hinges on Diverted Acre Policy
Fall Fertilization, Need for Balanced Fertility Stressed at Wisconsin Ammonia Meeting
Eagle-Picher Suburbs Add Unit Starts Up
Compliance Deadline Near for Kentucky Law
Minnesota Armyworm Campaign Saves $40 Million
INSECT, PLANT DISEASE NOTES
See Page 4

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